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THE UNIVERSITY OF ALBERTA

EDUCATION AND WORK ADJUSTMENT AMONG THE ESKIMOS OF THE NORTHWEST TERRITORIES

by

© LANCE W. ROBERTS

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Education and Work Adjustment Among Eskimos of the Northwest Territories" submitted by Lance W. Roberts in partial fulfilment of the requirements for the degree of Master of Arts.

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ABSTRACT

This thesis investigates the relationship between education and work adjustment among male Eskimos in the Northwest Territories. Such an investigation has implications for theoretical, substantive, and policy formulation issues regarding the native situation.

The review of the relevant educational literature leads to the conclusion that, during the 1950's, it was a widely held assumption that education was directly and closely related to employment aquisition and maintenance. Such an assumption has been challenged by recent empirical investigations. It is argued that native education in the North has been based on the educational assumptions of the 1950's and, therefore, deserves critical examination in light of recent educational literature. Such an empirical test is carried out in this study.

Using reference group theory and what limited data are available, it is argued that a U-shaped curvilinear relationship between education and work adjustment should exist. Furthermore, it is hypothesized that various

demographic and socialization variables should affect the degree of this relationship. Finally, it is suggested that education's affect upon work adjustment is likely considerably less than that predicted by educational policy. Specific hypotheses to test each of these ideas are forwarded.

Initial analysis shows that no U-shaped curvilinear relationship exists between education and work adjustment. Further, multiple regression analysis suggests that all of the education, demographic and socialization variables considered tell us little about work adjustment. What limited knowledge we do have about predictors of work adjustment is discussed. Further inspection of the models shows that predictive knowledge of educational attainment is considerably greater.

We conclude that the theoretical insights offered by a symbolic interactionist perspective for our problem are limited and that a more contingent, less cognitive theoretical framework may improve prediction. Substantively it is suggested that, although N.W.T. educational policy has isolated relevant variables for substantially increasing educational attainment, this increased education does not have its assumed benefits for work adjustment. Given these findings some policy implications for native education are discussed.

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CHAPTER 1

INTRODUCTION

1.1 THE PROBLEM

The fundamental problem of this study is to determine the relation between education and employment among adult, male Eskimos in the Northwest Territories. This chapter reviews the issues and research literature relating education and employment with particular reference to the Eskimos in the Northwest Territories. To this end the chapter is presented in four parts.

The first part documents the relevance of the problem for administrators, educators, and natives interested in the Eskimos situation. The second reviews the stance taken toward the problem in the 1950's. This outlook was optimistic and utilitarian about education's potential for increasing employment opportunity and adjustment. The third part of the chapter reviews the positions of the 1960's. During this period an increasing dissatisfaction with the

record of the educational programmes undertaken in the 1950's produced a body of literature attacking the policies instituted in that period. The final section deals with the implications of these issues to the particular situation of Eskimos education in the Northwest Territories.

The literature to be reviewed deals primarily with education and mobility. Because education and employment patterning, per se, are not adequately discussed in the available literature, the education and mobility literature is the most directly relevant. In addition, this study is not able to study how job opportunities are related to education among the Eskimos. Since no data are available to examine this relationship, the study is only able to research the relation between education and employment patterning to whatever employment opportunities are available.

1.2 THE RELEVANCE OF THE PROBLEM

The relation between education and employment among Northwest Territories natives is an important issue. Since World War II the pace of acculturation toward Kabloona (white man's) culture has quickened with the extensive introduction of education. In fact, the past two decades has seen the percentage of eligible Eskimos youth receiving

education rise from six to eighty five (Smith 1963:49). This intrusion of "white" education into the Eskimos way of life has supposedly been useful for reducing the transition strain from Eskimos culture to that of the Kabloona.

Much of the emphasis in the educational institution has been directed toward preparing the Eskimos for increasingly available "white" employment opportunities. Fluke (1963) estimated twenty thousand of these new jobs to be created in the Northwest Territories in the next twenty years. And recent successful exploration activity suggests that this may be an underestimate. Consequently many researchers and natives have come to believe in the importance of receiving an adequate education if increasing wage employment opportunities are to be grasped. Indeed, such a belief has some historical justification.

The importance of education to employment was exemplified with the completion of the Dew Line during the fifties. Jack Ferguson (1971) documents that when construction ended and the labour force was reduced, it was widely observed that Eskimos who got the maintenance jobs were those who had gone to school and could speak English well. This stimulated a desire among Eskimos parents toward wanting their children to go to school so that they could gain the security of wage employment.

Another reinforcing situation occured when the Department of Northern Affairs created a new town named Akudlik in 1954 (Phillips 1960). This new settlement was seen as an experimental attempt to bring Eskimos with little or no education, training, or English competence together in a town setting with wage employment, housing, and other constraints of white settlements. The experiment showed the adult Eskimos as impressed with their achievements in the labour market situation, and anxious that their children receive more education so that they could gain further. A parallel attitude regarding education's relevance to wage employment among the Eskimos was documented by Yatsushiro (1962). Similarly Balikci (1961) reports that where ample opportunity for wage employment is made available, the general trend is for natives to seize the opportunity to increase and regularize their income by accepting salaried work. These studies all support Vallee's (1960) conclusion that a "basic" education is required by natives for almost any job requiring more than sheer muscle power.

The belief in the importance of education for employment is by no means unique to the Canadian Eskimos. In her study of the Sioux reservation at Pine Ridge, South Dakota, Rosalie Wax (1967) reports that parents there also emphasize more education for their children so that better jobs can be found and held. Wax generalizes her argument to

claim that parallel problems and beliefs found among assimilating Sioux and urban, slum , school children suggest a pattern. This pattern being that education apparently has a central impact upon future employment among those groups whose family socialization norms are different from those required by the available employment.

This widespread documentation gives credence to the idea that among Eskimos, and perhaps among many minority groups striving for a better socioeconomic position, there is a strong belief in the close relationship between education and employment. Given this widespread belief, it is important to empirically test the nature and substance of the relationship.

1.3 THE ARGUMENT OF THE 1950's

Attempts to educate the Eskimos did not occur on a large scale until after World War II. The massive imposition of education upon the Eskimos that followed the war was based on the assumption that education is directly related to an increase in both the availability and adjustment to expanding employment opportunities. This assumption was reinforced in most of the literature on the relationship between education and employment throughout the 1950's. For example, Glick and Miller (1956) analyzed the

1950 United States census and found that increases in mean income were associated with increases in education for all Americans. Admittedly there were color differences in the amount of increase, with non-white males of similar age and education having consistantly lower incomes than their white counterparts. But the relationship between education and income still existed. Bruner and Wayland (1958) drew a similar optimistic conclusion from their analysis of the 1950 United States census. They establish, first, that educational attainment is related to the type of work in which people engage; and, second, that the educational level required for for initial entry into many occupations is increasing. Therefore, they conclude, education is becoming increasingly important for employment.

Similar support concerning the United States is given by Eli Ginzberg (1956). He claims that America's historical stress for universal and utilitarian education has produced a situation where persons can work toward shaping their occupational future. He draws upon Wolfe's (1954) study which examines the distribution of semi-professional and managerial college graduates by the socioeconomic status of their fathers. This study used the comparative relation between the father's occupational status and that of his son as an indicator of social mobility. The greater the disparity , the stronger the argument that other

(educational) influences shaped the employment status. Wolfe found that in his sample 60 percent had a lower SES background; thereby demonstrating the importance of education to mobility. This and some related evidence leads Ginzberg to conclude that the school system is itself the major impetus to occupational mobility.

The correlational evidence that pointed toward the beneficial effects of education for work and income was not confined to the United States. Havighurst (1958) reinforced the attitude when he examined the relation between education and social mobility in the United States, Brazil, Australia, and Great Britain. Using census data from these four countries he demonstrated that education was directly correlated with upward socioeconomic movement. Similarly, when Floud and Halsey (1956) examined evidence from Great Britain they conclude that, although the relationship may not be as intense as Havighurst suggests, education has a significant selectivity function for upward mobility. This selectivity function leads Floud and Halsey to conclude that education is an important independent variable affecting employment.

The evidence of all these authors centers about the optimistic, post World War II belief in education as the vehicle through which those of whatever SES, race, or creed could achieve their desired upward mobility. The

underpriviledged and the "culturally deprived" were only special cases to which this enthusiasm was applied. And even though these, who were not socialized into the standards required and strengthened through education, were less susceptible to its influences, the evidence apparently showed them as under its sway. For example, Becker (1955) examined some of the problems involved when the educational formula is applied to those subgroups who were not exposed to middle class socialization patterns. He observes that though there is often concern about whose cultural tradition is going to be transmitted, the dominant, pragmatic, middle class pattern is usually emphasized in the schools. Becker's analysis shows the form to be the same in the United States, Africa, Haiti, Ireland, and India. In all of these places that kind of education that apparently brought success to the successful is always attempted. And the actuarial record, according to Becker, seems to reinforce that when a pragmatic education can be given to instill a certain type of values and standards, it does bring results. For Becker, like the others, there is little doubt that education is the proven way to achieve successful assimilation and mobility. The problem is in finding the means to give the education which yields such results to those who have different cultural, social, or class background.

It was not until the 1960's that the research record began documenting a position that placed a different emphasis on education's relationship to occupational and social adjustment. Anderson (1961) represents the transition point in this shift of emphasis. Before Anderson, the widely shared conclusion that vertical mobility was closely dependent upon formal education was based primarily upon analysis of census data. Anderson was skeptical of granting such sweeping credence to the results of such studies, for they really did not involve very complex analyses. Many of the studies did not even use control variables and often overgeneralized their conclusions. Anderson was also skeptical of the many corollary conclusions these studies forwarded. Especially those which stated that the moderate correlations between schooling and income would be much greater if one could distinguish that part of education which was "job oriented". To Anderson it was not appropriate to generalize or exaggerate the moderate correlations that had been found from simplistic analyses. He concluded that no adequate test of the relation between education and mobility through employment had been made, and that most of the conclusions from previous studies had been more heavily based on belief than fact. To test the magnitude of the relation between education and mobility Anderson undertook a close examination of census data from the United States, Sweden,

and Great Britain. Some detailed analysis led him to the conclusion that those with lesser education gain status far more often, and those with interim and greater education gain status far less often, than would be the case if education were the major determinant.

This conclusion, of course, is not suprising. But Anderson's study is an example of the kind of research to be undertaken in the 1960's. Previous researchers had known that other variables influenced mobility but were quite satisfied to focus on education as if it were the sole determinant. The decade of the sixties was to see the investigation of the relationship between multiple variables and occupational mobility; and with these the emergence of a quite different perspective on what schools could do was to arise.

1.4 THE COUNTER ARGUMENTS OF THE 1960's

Throughout the 1960's researchers again sought to assess education's ability to create equal employment opportunity and mobility. This section will review some major challenges that were mounted against the research and educational policy instituted during the fifties. The criticism came from various sources but has a common theme; namely, that serious consideration must be given to other

independent variables at least as important as education in determining occupational mobility. To date the arguments are by no means conclusive, but they do represent a serious challenge to the environmentalistic assumptions of the 1950's.

The mid-sixties saw the publication of the Coleman Report (1966) which empirically documented the school's inability to reshape society. This study centered about documenting the differences between schools attended by whites and those attended by minorities, and the affect these differences may have upon educational performance. The underlying assumption that educational performance is directly related to occupational opportunity and performance necessitated that if there were significant schooling differences, and if these differences were causing different performances, then the differences should be alleviated.

Coleman found that facilities, staff, and services among schools were distributed unequally; with schools attended by white children being significantly better equipped. When compared to the whites, Negroes and Puerto Ricans attended schools that were larger, older, more crowded, and had fewer lavatories, library books, auditoriums, and gymnasiums. Their teachers scored lower on vocabulary tests, and their cafeterias and play grounds were less adequate.

After correlating these factors and others including the quality of the curriculum and class size, Coleman concluded that these factors do not have much affect on school achievement; for within school variations in achievement were much larger than any between school variations. Since variations in the quality of schools were not found as highly correlated with the variation in achievement of pupils, the important question became one of assessing what factors do affect pupil achievemnt.

Coleman cited three factors that are highy correlated with school achievement. The first was the student's attitude toward control of his environment. Coleman used three indicators of sense of control over one's environment in a large attitude survey and found that, on all three, both minority groups differed substantially from the white group. The latter more frequently believed that their environment would respond to reasonable efforts, while the former tended to see the environment as random or immovable. The second important factor, likely associated with the first, was the student's socioeconomic status or family background. When this factor was measured by urbanism, migration, parent's education, family size, presence of such items as television, record player, radio, automobiles, et cetera, Coleman found significant differences between the two groups. Similarily, the third factor affecting school

achivement, the aggregate SES of the stduent's peers, showed significant differences between the two groups. With this study Coleman became among the first investigators to empirically document the limitations that educational environment could have for occupational mobility. For even if school performance was directly related to employment, the type of school does not have much affect on school achievemnt. Therefore other, non-school, variables must significantly affect employment. Coleman's findings triggered a series of other important studies that have challenged the traditional educational assumptions.

Using the large amount of data now available on individual income differences, together with some of their own, Jencks et al (1973) examined the extent to which income differences were traceable to schooling, intelligence, and home environment. Using multivariate statistical techniques, they established that part of income variation which can be attributed to each of these antecedents to be quite small. In particular, Jencks estimated that the part of individual income variation genuinely attributable to schooling to be only about 12 percent. Furthermore, only about 20 percent of variation in income is accounted for by schooling, I.Q., and home environment. Therefore, although schooling is a variable which may show a moderate correlation with income, it is not a variable which explains

much income variation. It might be concluded that the causes of income inequality are a result of an unknown causal web since 80 percent of income variation is unaccounted for. From this it is not necessary to conclude that schooling, or I.Q., or home environment are irrelevant to success, but that many important factors remain unidentified. This conclusion, that employment success is surely not the result of a single, simple independent variable such as schooling, is in sympathy with that of many educational critics of the 1960's, and seriously challenges the educational assumptions of the previous decade.

Banfield's research (1968) supports the conclusions of the Coleman report in focusing on class differences in attitude and how these significantly affect performance. A central theme of Banfield's extensive integration of the relevant literature is that there are imperatives to different class cultures that set severe limits to the way they behave and the reforms they respond to. Such response patterns are clustered into what Banfield calls "class cultures". The central notion is that certain life styles are learned in childhood and are passed on in kind of a collective heritage in various classes, and that these are what set the severe limits.[1]

For Banfield the concept of "class culture" has ramifications in a number of policy making areas including

education. Banfield challenges those that encourage staying in school on the assumption that the skills one aquires will be valuable for employment, and argues that there is no reason to believe that high school graduates can earn more than dropouts because of anything they learned at high school. Banfield supports his thesis by showing that attempts to reduce unemployment and poverty by increasing the skills of workers through schooling have seen only very limited success.

From his perspective, Banfield argues that education is a meaningful vehicle to employment only for those from some class cultures. As well Banfield argues that the schools seem to be very ineffective in changing a child's class culture. He concludes that education presently seems not to be useful for employment to the lower classes; those who, according to many, require it most. The reasoning is tied to the fact that education requires an interest in imagining, working, and deferring for the future; all characteristics which are generally not found amid the present-oriented, "disadvantaged" child. For Banfield the evidence of Coleman and others suggests that by the time a lower class child has reached school his class socialized "handicaps" are so fixed that there is little the school can do. Although Banfield's argument and documentation have inspired much controversy among academics and educators, his

arguments appear on sound enough factual ground to represent a serious challenge to educational orthodoxies of the fifties.

Also rising during the sixties was the complex debate about I.Q. and educational attainment. This debate too plays down the environmentalistic educational assumptions prevalent during the fifties. Fundamentally the I.Q. argument may be summarized as follows. If I.Q. is the best available predictor of educational achievement which is, in turn, related to future employment and sociceconomic status, it is important to determine what proportion of I.Q. can be appropriated to nature and what proportion to nurture. For if most of I.Q. is genetically determined there may be little that can be achieved through an attempt to equalize employment opportunity and achievement through education.

Berkeley psychologist Arthur Jensen (1969) took the position that genes determine I.Q. much more than educational and environmental factors do. As a result of his research he attributed 80 percent of I.Q. differences to nature and 20 percent to environmental influences. This result was determined through an extensive analysis using the twin study methodology. Jensen claimed that I.Q. differences are correlated with race; with blacks showing consistent median differences 15 points lower than whites; who in turn show median I.Q. scores 5-10 points lower than

Orientals and Jews. He further challenged the environmentalistic assumption by showing that black I.Q. scores are generally lower than American Indian and Mexican Americans; even though the latter are generally more economically deprived. Moreover Jensen stresses that there are racial differences in the type of intelligence. His data show associative intelligence scores (which include rote learning and memory) as about the same for all groups; whereas cognitive intelligence scores (including the ability to manipulate abstract symbols) are higher for whites and high SES subjects than for blacks and low SES groups. Jensen claims his argument has consequences for educational policy and its relation to employment. For if learning skills in school is important to future employment, then uniform education is unlikely to bring about the desired employment consequences. This occurs since "what" one can learn is heavily dependent on "how" it is learned; and "how" various groups learn is both different and largely pre-determined. Therefore, if educators are interested in exploiting employment's relation to education, they are advised to develop different schooling systems for different groups. Such a conclusion challenged the homogeneous type of schooling implemented during the previous decade.

Richard Herrnstein (1973) is another exponent of the differential I.Q. debate and its relevance for educational

policy and employment. Unlike Jensen, who concentrates on racial differences, Herrnstein claims that the major I.Q. dividing lines are class. From one perspective Herrnstein can be interpreted as citing a genetic argument for the basis of Banfield's class culture distinctions. His work, like the others in this section, has attempted to expose important variables that increase the complexity of the relation between education and employment patterns. Herrnstein's point is summarized in his own words:

> "... if, for the sake of discussion one grants the possibility that mental abilities do vary at all genetically, then a powerful and surprising conclusion follows---namely, that society may segregate people into social groupings or classes based at least partly on biology.. as society increases the opportunities for advancement, which is to say as society becomes "fairer", by the ordinary standards of fairness, it will tend more and more to base distinction on genetic grounds." (Herrnstein 1973:54)

It is evident from this statement that Herrnstein is making a very serious challenge to the educator who wishes to use education as a vehicle for alleviating disadvantages.

The arguments made by Coleman, Jencks, Jensen, Banfield, Herrnstein and others still remain issues of intense debate. But the important converging point is that there is a large and growing amount of literature attacking the assumption that education is the important variable directly related to employment. The findings do not deny

that education is a variable related to occupation, but are rather concerned with reassessing the kind and degree to which education is important. In this manner the sixties has fundamentally questioned the research and educational policy of the fifties; a perspective which assumed a direct, significant relation between education and occupation. As a consequence, education can no longer be seen as the only significant variable related to occupation.

1.5 THE PARTICULAR CASE OF THE NORTHWEST TERRITORIES ESKIMOS

The final section of this chapter relates the literature on the education of the Northwest Territories Eskimos to the educational positions described as those of the fifties and sixties. The argument will be made that the educational policy in operation until about 1970 among the Eskimos was developed and based on the rationale of the fifties; namely, that education is the important variable directly related to employment aquisition and maintenance. Once this point has been demonstrated, the chapter will conclude by showing that educational questioning of the sixties has importance for reconsideration of many issues relating education to employment among the Northwest Territories Eskimos.

The assumed direct relation between education and

employment is prevalent throughout most of the literature dealing with education policy. Fisher (1966) documents this as the case for educational policy among Alberta's Indians. He states that the burden placed upon native education has been to develop the capacities of the people with the hopeful result that economic and political growth will follow directly once this is done. In realizing that such an assumption has important ramifications, the Fisher study called the assumption into question. Wax (1967) similarly argues that the dominant assumption guiding the education of the Sioux of South Dakota is that individuals who do poorly in school are necessarily handicapped for the remainder of their lives. This result occurs because "the schools have become the occupational gatekeepers and the level of education affects the kind and level of the job that can be attained" (Wax 1967:46). In the same manner Hawthorn (1967), in documenting the political, economic, and educational policies among contemporary Canadian Indians writes:

> "...the Indians are competing with workers who reach standards of living that are made possible by their superior education. There is, on the reserves, a large supply of unskilled manpower, but the jobs available for workers of this type are as a rule neither steady nor well paid. This amounts to saying that their low level of education does not enable the Indian to earn a proper living." (Hawthorn 1967:167)

Although the literature on Eskimos education is not nearly so prolific, it does convey a tone similar to that found in the Indian education literature. Jenness (1964) stresses that in post World War II Northwest Territories the federal government held the guiding hand in developing native education policy. And this policy stressed education as the assimilation agent through which Eskimos could gain the skills required to obtain white-type employment. But although government policy dictated the close, direct relation between education and employment, it was not long until the Eskimos themselves supported the necessity of increasing their own, and especially their children's, educational achievement as the key to wage employment. Both Okpik (1960) and Frank Vallee (1960) confirm this attitude as prevalent among the Northwest Territories Eskimos.

The available literature on education and employment among North American natives, and the Eskimos in particular, documents the underlying faith in a close, direct relation between education and employment. This is not suprising for it is based on the rationale of the educational literature of the fifties; the period when these educational programmes were developed. But, as has been previously documented, the relationships involved seem to be much more complex than such assumptions would have us believe. In the light of this new literature the relation between Eskimos education

and employment should be reconsidered.

Hobart (1968), in his survey description of Eskimos education in residential schools in the MacKenzie District of the N.W.T., gives a clue to one aspect of such a reconsideration. Hobart found that there was an apparent U-shaped cuvilinear relationship between education and work adjustment to the available employment opportunities. This finding is interesting for it questions the assumed direct relation between education and employment. Because it was based on somewhat deficient data and small sample, and because it reconsiders the more traditional views relating Eskimos education and employment, Hobart's hypothesis deserves to be given more serious investigation using adequate data. This task, and that of assessing the strength of the relationship, shall be undertaken in following chapters.

1.6 SUMMARY

This chapter has reviewed the relevant literature on education and employment since the second World War. It was found that the 1950's produced both research and educational policies that stressed both the importance and directness of the relation between education and employment. The research literature of the 1960's called these beliefs into serious question, and criticized the simplicity of the optimistic educational views and programmes of the fifties. As a result, education can no longer be seen as a sufficient, direct determinant of employment.

The latter section of this chapter documented how the educational programmes of the N.W.T. Eskimos were but a particular case of the educational beliefs of the 1950's. The chapter concluded with Hobart's finding which, like the literature of the sixties, challenged a simplistic, direct view of one aspect of the relation between education and employment. It was argued that Hobart's hypothesis about Eskimos education's relation to work adjustment deserves further testing because, methodologically, it was based on limited data and, theoretically, because it hypothesizes a pattern of relations quite different from that predicted by the educational policy which instituted them.

The remainder of this study shall give a further test to Hobart's hypothesis as well as test the strength of the relationship between Eskimos education and work adjustment. The next chapter will employ reference group theory to argue for the plausibility of the hypothesized U-shaped cuvilinear relation between education and work adjustment. In addition, the chapter will apply the reference group conceptualization to the particular Eskimos situation and present specific hypotheses to be tested.

CHAPTER 2

THEORETICAL ORIENTATIONS

Elkin (1937) reports that an important phase in the acculturation process experienced by many indigenous groups in North America has been the rejection of their traditional culture and the adoption of alien models derived from the dominant, white group. The more extensive and intensive the white contact, the more conspicuous this process. Berreman reports this to be the case especially where culture change has been "directed"[3], and where the traditional economy of the natives has been depleted or replaced (Berreman 1964:231). In such situations there is bound to be an interaction of the attitudes, values, standards, and behaviours of the two cultures that leads to changes in the self definitions and behaviours of the native peoples.

This chapter will theoretically examine the relationship between two important variables in the acculturation process---education and adjustment to employment opportunities. Since World War II, changes in

both of these variables have considerably affected the Eskimos in the Northwest Territories. Government educational programmes have been extensive and intensive in the transmission of a set of alien standards and expectations. As well, increased industry has created more goods and services, contact, and wage employment for the Eskimos; all of which have changed the traditional Eskimos expectations. These education and employment changes have produced circumstances where "white" society has become an increasingly important reference group for the Eskimos.

The task of this chapter is to use reference group theory as a tool for guiding inquiry into the relationship between education and work adjustment among the Northwest Territories Eskimos. To this end the chapter is presented in two parts. The first reviews the relevant conceptual distinctions employed by reference group theory. The second part explains the Eskimos education and employment situations using these conceptual distinctions, and forwards specific hypotheses to be tested in the study.

2.1 THE REFERENCE GROUP CONCEPTUALIZATION

The reference group concept has been in vogue in sociological and social psychological literature in recent years (Merton 1957; Merton and Kitt 1950; Newcomb 1950;

Sherif and Sherif 1956; Shubutani 1961; Turner 1956). It was formally introduced in the research of Hyman (1942), but has since then seen much refinement and elaboration. The concept has a long history that need not be considered here, but has become a central component of that theoretical school labelled "symbolic interactionist" (Rose 1962).

The concept of reference group can be summarized as follows. When a person's attitudes and behaviours are influenced by a set of norms which he assumes are held by others, those others constitute for him a "reference group". The individual may or may not be a member of that chosen as his reference group. If he is a member, whether or not he wishes to remain one, the group is called his "membership group" (Newcomb 1950:225; Merton 1957:285,286). He may have a number of reference groups relevant for him simultaneously, alternatively, or situationally. As well, a reference group need not be a group at all; for the attitudes and behaviours may also be oriented to "individuals, collectivities, fictitious, or extinct sets of norms, norms held be fictitious or extince groups et cetera" (Newcomb 1950:226).

Turner (1956) distinguishes two kinds of reference group: 1.) the "identification group", which is the source of the individual's major perspectives and values. In this type, the individual plays the role of a member and adopts

the group's central values, attitudes, and behaviour as his own. 2.) "Valuation groups", the second reference group type, are those which "aquire value to the individual because the standpoint of his identification groups designate them as points of reference" so that "the individual compares himself with these groups or notes the impression he is making of them or in some other way accounts for them without adopting their standpoints as his own" (Turner 1956:328). Any particular valuation group may take on a positive, neutral, or negative valence (Merton 1957:300,301). In summary, as Newcomb (1950:225) has stated: "The significant thing about a reference group is, in fact, that its norms provide frames of reference which actually influence the attitudes and behaviour of a person".

Using these distinctions, it can be argued that the contemporary Eskimos perceive the white man as a positive valuation group. The Eskimos often want to be acceptable to the white man and judge themselves by reference to white man's standards. To use Coutu's (1951) terminology, the contemporary Eskimos "take the role" of the white man; that is, they mentally put themselves in the white man's place in order to evaluate their own behaviour. But, in addition, because much of the traditional Eskimos culture is ridiculed by their Kabloona valuation group, the contemporary Eskimos often negatively value their traditional normative frames of

reference. This appears to be the case for all but the oldest Eskimos (Yatsushiro 1962). Therefore, through this process of judging themselves by Kabloona standards, Eskimos are often led to adopting white perspectives and behaviour. In some contexts this adoption is taken to the extreme where the Eskimos not only "take the role" of the white man but "play the role" of the white man; that is, they "act white". On these occassions the Kabloona can be conceived as constituting an identification group for the Eskimos. In this manner the reference group perspective is useful for analyzing the Eskimos and white cultures. But before considering the Eskimos education and work adjustment situation in these terms, the concepts of marginality and adjustment must be developed within this framework.

2.2 UTILITY OF THE DISTINCTIONS FOR DISCUSSING MARGINALITY AND ADJUSTMENT

In the reference group framework an integrated, adjusted person can be seen as one who has the same reference group for identification and valuation. When this matching of membership and reference groups occurs, the individual is accepted into the group which both supplies and judges his internalized standards of attitude and behaviour. In such a network, a consistency of rewards and

sanctions can easily be achieved. This integration will continue so long as the attitudes and behaviour produced by the network are found to be the most rewarding of the possible alternatives. When the matching of the membership and reference groups is not perceived as the most rewarding of the possible alternatives, the discomfort introduced through the mismatching motivates a search for different integrative networks.

This latter situation can be seen as that of the contemporary Eskimos. From the genesis of the interaction between the two cultures, the Kabloona(have increased the dependency of the Eskimos through rewards of food, clothing, shelter, and related luxuries. Such rewarding potential has made the Kablcona an important valuation group. But, in contrast, the membership group of the Eskimos instills a set of traditional standards which are quite different.

In such situations, where reinforcement is toward two quite different sets of expectations, reference group theory predicts social psychological problems will be encountered. In the Eskimos case the reference group for valuation is alienated from the membership group used for identification. Freeman (1964:234) expresses the double bind of such a situation well.

"As a result, an individual must make a

> choice. If he is to be acceptable to the Aleuts he must remain with the group and exhibit alienation from whites. If he aspires to be white and shows it, he must endure alienation from the Aleut group with little hope of achieving acceptance by Whites."

So long as such a condition continues where the Eskimos is not able to reject the contrasting rewarding power of either group, he will remain a marginal man.

There are many combinations of membership, identification, and valuation group that can induce marginality as Berreman (1964:247) notes:

> "Presumably types of marginality might be characterized in terms of reference groups and membership groups, eg., 1.) identification with a group of which one is not a member, perhaps the most acute form; 2.) lack of identification with one's membership group; 3.) negative valuation of a group in which one is a member; 4.) positive valuation of a group with which one does not identify or with which one does not belong; 5.) possession of multiple or shifting membership identification, or valuation groups or combinations of these, which have contradictory norms; 6.) lack of identification or membership groups. There are doubtless others. These types of marginality appear singly and in combination and they have varying implications for the people involved."

And such distinctions have contemporary relevance to the Eskimos situation. With such tremendous potential for imbalanced networks between membership and reference groups that produce marginal states, it is to be expected that

consequences of a significant nature may result. To reiterate, if rewards forthcoming from an attempted change of identification or valuation group are perceived as greater, then the change will likely be attempted. But, as is often the case, the perceived rewarding potential of a change is often different from the actual rewarding potential. There is always the chance that after attempting to change some membership or reference group statuses, the person will not be accepted into that group to which he aspires. When this happens, the person experiences severe marginality because he is now rejected from both the group to which he aspired because he does not meet their qualifications, and from the group which he left for his leaving is perceived as a rejection of that former group. This resulting state of alienation is characterized by behavioural symptoms such as apathy, withdrawl, non-conformity, et cetera (Stonequist 1937). Alienated persons are literally normless persons who have no acceptable membership group which can give standards to guide their behaviour. They have identified with a group into which they are not members; and they have rejected a group in which they were members.

Before leaving these distinctions the "relative deprivation" concept should be introduced. This concept can be used to describe the state of marginal persons who have

become alienated. In a marginal state an individual has a reference group that has different standards from those of his membership group, while the former are perceived as more desirable because of their higher status. Although in this situation the individual at least has a membership group which accepts him, there is discomfort because the matching of his internalized standards is inconsistent with those of the more desirable valuation group. For a while not belonging to the higher valued reference group only serves to increase the desirablity of that group, and the subject still feels that, given an opportunity, he could achieve the highly desirable reference group status. But eventually this imbalance between valuation and membership groups becomes too uncomfortable and, to attain congruence, a change of membership groups is attempted. This attempted change is conducted at the cost of being rejected by the initial membership group. But, for various reasons, the participant is most often not successful in gaining membership entry into the reference group and, when this occurs, the individual is left without either side. This state can be described as "alienated".

In the Eskimos situation, where the membership group is overwhelmed by standards of a dominant society quite different from their own, such a motivational state is often experienced and, as a consequence, there are many attempts

by many members to improve their condition. When the attempt to improve their condition results in failure, traces of envy and resentment of the dominant group often result. That the subordinate group has been denied membership into the dominant group is a fact, and because such membership is not attained, the full advantages of the dominant valuation group cannot be enjoyed. The resentment accrued when this situation occurs is known as "relative deprivation". In such a state an individual or group experiences deprivation relative to another for which no satisfactory justification is evident.

To this pont the chapter has concerned itself with two issues. It has introduced and described the relevant distinctions of reference group theory and, secondly, has shown how these distinctions can be utilized for the discussion of alienation, marginality, and adjustment. The remainder of the chapter will describe the Eskimos education and work adjustment situations using the established reference group framework.

2.3 CONCEPTUAL APPLICATION TO THE ESKIMOS SITUATION

In reviewing the historical situation of the Eskimos, it is evident that, previous to white contact, these people had an integrated and viable social network. During this

period the Eskimos system of values, beliefs, expectations, and rewards facilitated survival in their environment. At least this is the picture portrayed by the early white investigators such as Jenness (1918).

After contact with the white man, the Eskimos adopted certain technological innovations provided by the Kabloona. With the introduction of the first Western technological gadgets the Eskimos were, for a while, able to sustain a "best of two worlds" situation. His traditional ways were more efficient while the Eskimos life styles and allegiances were maintained. With time the influence of the white man increased. The barrens and coastal lands became spotted with fewer, more heavily populated, settlements whose center was the trading post. These centers became effective channels of cultural diffusion to the Eskimos population as more and more people settled in their vicinities.

Along with these centralized settlement patterns, reinforcement of the traditional Eskimos cultural values and behavious became more infrequent as, concurrently, the rewards for allegiance to and integration with the Kabloona standards became greater (Mowat 1959; Jenness 1964). But it was not until the 1950's, with the growing importance of the North, that the educational system established by the missionaries gave way to a broader and more comprehensive system established operated by the federal government and

patterned after those in the provinces.

As suggested in Chapter One, the educational system introduced by the government had as its objective the easing of the transitional stress that seemed inevitable as immersion of the Eskimos in the Kabloona dominated environment increased. The education vehicle was especially directed toward the forecasted increasing "white" employment opportunities available for the Eskimos. But there were logistical problems with introducing a large scale post World War educational policy. For one, during the early 1950's, classrooms were often vacant because the Eskimos traditionally followed a nomadic annual cycle. It was because of this problem that the 1950's saw the rise of the use of hostels or boarding schools; a topic to be considered later in more detail. In this type of school large numbers of children could be held and directly exposed to the education which was supposed to improve their social mobility by preparing them for adjustment to white employment opportunity.

This increasing general contact, but especially the specific, intense educational contact experienced by the young Eskimos, continually introduced the Eskimos to competing pressures and different standards of reward. In reference group terms, the standards and expectations of "white" society progressively became the group against which

many Eskimos evaluated their traditional patterns of belief and conduct. The material benefits gained from wage employment had much to do with reinforcing this pattern, and where the educational policy declared that wage employment was directly dependent on educational achievement, the desire for greater education also increased. In this manner Kablcona normative standards gradually challenged and supplanted the traditional Eskimos ways; eventually producing an incongruent matching of membership and reference groups among many natives.

Given these pressures for inducing the double bind situation, reference group theory can make some predictions about how educating young Eskimos may affect their ability to adjust to available employment opportunity.

Using Hobart's (1968) findings and reference group theory, it is possible to hypothesize what affects different amounts of education, in combination with different socialization histories, will have upon work adjustment. The remainder of the chapter will be directed toward explaining these different interactions and forwarding hypotheses.

Given these considerations, it can be anticipated that where the amount of education has been minimal, the pressure for deviation from traditional expectations are fewer and

less intense. In this case the competing reference group values introduced through the school have not had time to gain a foothold and, accordingly, education should little influence adjustment to traditionally available modes of existence. At the other exreme, where education has been lengthly and sustained, the transference to and internalization of white standards may be expected to be more pronounced. In this situation the time and intensity of exposure to the Kablcona reference group has been sustained long enough for a shift of both identification and valuation groups to occur. These pressures for the internalization of reference group standards were multiplied in the residential school. Here the long periods away from traditional membership standards significantly reduce the probability of their retaining much sanctioning power against an allegiance with reference group standards.

Both the low and high educational states can be seen as situations where allegiance to one set of standards is made dominant via significant or insignificant amounts of education. In both these situations the identification group which motivates various attitudes and actions and the valuation group of these actions are congruent, and therefore the probability of a double bind situation is greatly lessened. Since either of these situations conforms precisely to the reference group definition of adjustment,

those natives with either very little or great amounts of education must be predicted as those most likely to elicit adjustment to their employment.

Medium levels of education, however, would seem to facilitate a double allegiance situation. The double allegiance situation, in reference group terms, is one described as marginal or alienated. The Eskimos with medium amounts of education should have experienced enough exposure to have Kablocna reference valuation group as a serious competitor to their traditional identification viewpoints. In this situation, as well, the the education exposure has not had time nor intensity to firmly facilitate the complete transfer of identification from traditional ways of the Eskimos to those of the Kablcona. Consequently, an incongruent mapping of membership and reference groups should occur. Such marginal and alienated states ought to have the consequence of making work adjustment more difficult and therefore less adequate.

In this manner reference group theory gives support to the plausibility of the U-shaped curvilinear relation between education and work adjustment suggested by Hobart (1968). It provides a reasonable explanation for why it is theoretically credible to continue through investigation of the problem. The final section of this chapter presents the hypotheses to be tested.

2.4 THE HYPOTHESES

Each of the hypotheses in this section is related to the reference group theoretical discussion as it applies to N.W.T. Eskimos education and work adjustment. In most instances the hypotheses describe and qualify how various other variables may influence the expected curvilinear relation between education and work adjustment. They are formulated in an attempt to make distinctions and further clarify how some important demographic and socialization variables may affect the stated relation.

Hypothesis One

It has been argued that both low and high amounts of education will tend to produce a congruent mapping of identification and reference groups among the Eskimos. Reference group theory conceives such congruence as a state of psychological adjustment. In contrast, medium education should produce an incongruent mapping and further psychological discomfort. To the extent that psychological comfort or discomfort is related to adjustment to available employment, there should exist a U-shaped, curvilinear relationship between education and work adjustment.

Hypothesis One: Work adjustment is related in a

curvilinear fashion to educational attainment.

Hypothesis Two

It is an historical fact that Eskimos reared in the Eastern territories have had much less general contact with the white man (Jenness 1964:135). The intensity o contact that followed the industrial interests in the North was much heavier in the Western territories. As a consequence of this lessened interaction with the Kabloona, the traditional Eskimos ways have remained in a more integrated form among the Eastern N.W.T. Eskimos. One result of this more traditional and consistent normative network is that the Eskimos from the Eastern territories should have more strongly internalized traditional norms.

The more traditionally coherent pre-school internalization among the Eskimos from the East should produce a different reaction between education and work adjustment from their Western counterparts. It is assumed that the curvlinear relationship between education and work adjustment will still hold, but that the Eastern Eskimos, because of their stronger and more binding traditional norms, will be more slowly influenced by education. This difference should be reflected in differential degrees of work adjustment when compared with Eskimos from Western regions.

Specifically, at lower education levels, schooling should produce less adjustment for Eskimos from Western regions than for those from Eastern regions because those from the West are more susceptible to the schooling influences which are offered as a disrupting alternative to traditional patterns. At high education levels the greater susceptibility of the Western Eskimos should allow them to be more quickly converted to a complete internalization of Kabloona standards. Therefore, they should show greater work adjustment. The Eastern Eskimos, on the other hand, should be less adjusted that Western Eskimos because their lower susceptibility makes their transition relatively less complete. At high education levels, the greater incongruence experienced by the Eastern Eskimos makes for a greater degree of valuation/identification group conflict which results in lower levels of adjustment.

Hypothesis Two: At lower education levels, work adjustment is higher among Eastern than among Western Eskimos. At higher education levels, work adjustment is higher among Western than among Eastern Eskimos.

Hypothesis Three

For Eskimos attending residential schools the impact of education is greater than for those attending day schools because the total insitiutionalization of the former

severely reduces the availability of reinforcement from traditional reference groups. Richard King (1967) in his discussion of the residential school at Mopass, Yukon, estimates that the residential school exerts an influence of five to one over the family. Although every school situation has the impact of introducing competing valuation groups for the Eskimos, the intensity of such an introduction is much greater in the residential school setting than in that of the day school. Because the intensity of influence varies depending upon the type of school, differences in adjustment should appear when the curvilinear relationship between education and work adjustment of the residentially schooled is compared with that of the day schooled.

Specifically, since the residential school produces more intense competing influences, at low education levels this type school type has time to significantly introduce a competing valuation group. Such a short duration of the less intense day school has little effect. Therefore, at lower education levels, the residential schools will produce less adjustment than the day schools because they are more disrupting. At higher education levels, the residential school influence provides sufficient length and intensity of exposure to shift identification allegiances so that identification and valuation groups are Kabloona

oriented. The less intense day schooling influence for this duration will be less potent in removing the traditional membership allegiances. Therefore, at higher educational levels the work adjustment of the residentially schooled Eskimos will be greater than for the day schooled.

Hypothesis Three: At low education levels, the work adjustment of Eskimos having attended day schools is greater than that of those who have attended residential schools. At high education levels, the work adjustment of Eskimos having attended residential school is greater than that of those who have attended day schools.

Hypothesis Four

Generally English has seen exclusive and compulsory use throughout the post war educational system in the Northwest Territories (Jenness 1964:127). Since the problem of comprehending the competing requirements made in the school is an important one if the schhol is to influence the Eskimos children in attendance, those who enter school with English comprehension should be more immediately influenced by competing reference standards. Consequently, it is to be expected that those Eskimos who speak English when entering school will later show different degrees of adjustment from those who do not speak English.

Since English competence facilitates the comprehension

of competing requirements, at lower education levels such competence will increase the degree to which Kabloona refernce standards can compete with those traditional norms. This introduction of competing standards facilitated by the understanding of English should produce more incongruence, and therefore less adjustment, at lower education levels than for those who cannot speak English. But at higher education levels, the comprehension of standards aided through English will have faciliatted early struggle but, as well, the early mastery of competing standards. Therefore, when comparing this section of the curvilinear relation, those Eskimos with initial English skill will show greater adjustment than those without.

Hypothesis Four: At low education levels, initial English comprehension will decrease adjustment. At high education levels, initial English comprehension will increase adjustment.

Hypothesis Five

The previous hypotheses have made predictions about the form of the relationship between education and work adjustment. In addition to these, the review of the literature in Chapter 1 suggests that a prediction about the strength of the relationship between these two variables can be made. The recent literature argues that the actual

importance of education of for employment may be much less than previously optimistic policies suggested.

Hypothesis Five: Regardless of the form of the relationship, education will explain relatively little of the variation in work adjustment.

2.5 CHAPTER SUMMARY

This chapter has introduced the major conceptual distinctions of reference group theory and employed these distinctions in an explanation of Northwest Territories native education and work adjustment situations. It was seen that reference group theory can usefully be employed to complement the conclusions of Chapter 1 and justify more complete methodological investigation of the predicted U-shaped curvilinear relationship between education and work adjustment. It was also seen that refernce group theory could be employed in forwarding and justifying specific hypotheses for testing refinements made by relevant demographic and socialization variables.

The next chapter will describe and justify the methodological procedures and techniques to be employed in the testing of the hypotheses of this chapter.

CHAPTER 3

METHODOLOGY, DATA ANALYSIS, AND FINDINGS

3.1 DATA SOURCES

The data used to test the hypotheses came from a Department of Indian Affairs and Northern Development Manpower Survey administered between January 1969 and December 1970. This questionnaire survey collected basic demographic data and information on training skills and education, linguistic ability, mobility, employment, and income from Northwest Territories native residents.

Due to budgetary constraints and lack of sufficient numbers of officers skilled in survey work, the N.W.T. Manpower Survey Programme had to be administered in four stages. Each stage covered a clearly defined administrative region in the N.W.T. and included the regions labelled Keewatin, Mackenzie, Baffin Island, and Arctic Coast. Even though there were differences in survey reference year, the data between regions were comparable.

a.) Objective

The manpower survey was conceived in the mid-fifties by the Educational Division of the Department of Indian Affairs and Northern Develpment with the objective of documenting the vocational training and employment placement of Northern native residents. Previous to this survey there was no satisfactory method of keeping track of graduates of training courses in order that they might be located for employment placement. In addition, the survey also collected data that would permit the review of existing programmes for future policy formulation.

b.) Pilot Study, Enumeration, Supervisors

With the assistance of the then Dominion Bureau of Statistics, the Department of Indian Affairs and Northern Development carried out a pretest survey on the south shore of Great Slave Lake and in the settlement of Coppermine in 1967. The pilot study utilized the direct enumeration approach and trained native local residents to test the feasibility of their use in the larger survey. These enumerators were supervised by a field survey party composed of Ottawa staff. The pretest experience provided useful information for revising various parts of the questionnaire and, upon completion of the standardized questionnaire, the project embarked on its region by region coverage of the Northwest Territories.

c.) Survey Method

Though the pretest provided information leading to a standardized questionnaire, the interview method of employing Eskimos enumerators attempted in the Coppermine district did not prove entirely adequate. This result occured because the only available Eskimos enumerators had an insufficient grasp of English to fully comprehend the questionnaire.

This problem furthered reconsideration of the possible alternatives for obtaining the information required. These included: 1.) direct enumeration of each respondent in person, 2.) indirect enumeration from files existing on the respondents in the field or in Ottawa, and 3.) some combination of 1.) and 2.)

The first alternative seemed to present the most potential problems because: a.) direct enumeration often involves serious recall problems, b.) many Arctic areas have seen numerous surveys in recent years with the result that local residents are often inclined to be somewhat indifferent, if not hostile, toward interviews, c.) it is likely that the most suitable native candidates for enumerators would already be employed and therefore difficult to obtain.

The indirect enumeration method utilizing existing

files avoids the above problems but it is only suited to regions in which the majority of the population are employed by agencies which keep and permit access to the required information. In most cases the indirect enumeration method is applicable only where most education and employment has been with government and government related agencies. Depending on the suitability of the circumstances, one method or combination of methods was used in collection of data on the respondents.

d.) Keewatin Survey

Using the standardized questionnaire the Keewatin Manpower Survey was the first region enumerated in January 1969. This region's survey differed from all others in that its information was collected almost exclusively by the indirect, file extraction procedure. This Eskimos inhabited region was particularly amenable to this data collection technique for the government had had direct responsibility for most programmes in the region until 1969. Therefore large amounts of documentation on demographic, education and employment characteristics were obtainable from Ottawa's records, R.C.M.P. disc lists, and informed sources within the community. In addition to obtaining the necessary data, the procedure utilized in this region allowed for fairly complete coverage of the population as well as some control over verification of the information obtained.

e.) Baffin and Arctic Coast Surveys

Like the Keewatin survey, the manpower surveys conducted in the Baffin Island and Central Arctic Coast regions covered only the Eskimos population. These two surveys differed from the Keewatin survey in the field phase in that an approach combining personal interview and indirect techniques was used.

The strategy was that of sending two officers from Ottawa to each settlement in the field to hire and instruct enumerators in the interviewing technique. Wherever suitable Eskimos enumerators could be found they were used. In conjunction with the information from files, this survey technique produced reasonably complete coverage of the Eskimos population within the region as well as a validity check on response quality.

f.) Mackenzie Manpower Survey

The Mackenzie Manpower Survey represented a considerable departure in the field methodology from the previous three surveys in that it was decided to cover all population elements instead of just the Eskimos. The field survey procedures for this region were basically the same as those for the Baffin and Arctic Coast surveys. One problem encountered in the Mackenzie was the lack of basic control data, such as those provided by the Eskimos disc lists in

the Eastern regions, tc verify population coverage in each community. In addition, the sheer size of the popualtion to be covered negated any plans to try and verify certain elements of informatien frcm records and other sources. Although some limited verification was attempted, the bulk of the information cbtained in this region's survey was accepted as presented at the time of enumeration by the respondents.

3.2 GENERAL ASSESSMENT AND LIMITATIONS OF THE DATA

The only available assessments of the Manpower Survey project (Meldrum 1973; Economic Staff Group 1969: 26-42) suggest that, in general, the questionnaire format worked quite well. The questionnaire served equally well in all areas in that nc one region showed greater or lesser difficulties in supplying the information. Knowing the objectives of the survey, it seems reasonable to assume that this project has collected sufficiently accurate and detailed information tc permit legitimate secondary analysis of the data.

Reference should be made to the fact that the data upon which this study is based are, in varying degrees, self-report data. Like most sociological data, self-report measures must be used while keeping in mind the criticims of

their validity. For instance, Parry and Crossley (1950) have noted that the validity of self-report measures varies with such constraints as the type of interviewer, interviewing situation, and social desirablity of the question content. It is difficult to accurately assess the limitations these criticisms put on the Manpower Survey data. But for at least two reasons these criticisms can, for practical purposes, be put aside. The first is that whenever validity checks were made and significant differences found between reported responses and those aquired through file records, the latter were used because of the greater probability of their accuracy. The second practical reason for not overemphasizing these criticisms is that this survey is the first and most extensive of its kind. It would be difficult to justify not exploiting its wealth because of these limited criticisms.

With respect to sampling, the aim of the Northern Manpower Survey Programme was complete coverage of the desired populations. In the case of the Mackenzie survey the desired population included all residents whereas the other three surveys were conducted only on Eskimos residents. Some discussion must be given as to how and why less than all possible residents were used in the hypothesis testing.

The first limitation derives from the fact that some

respondents both refused to answer the questionnaire and could not be enumerated by indirect means. This problem occured most often in the Mackenzie enumeration. Since persons completely refusing to answer were left off of the data tapes, significant biasing in the sample may have occured if this category were particularly large. Fortunately the proportion of non-respondents of this type was not substantial (Meldrum 1973).

Other limitations on the sample were introduced through the selection of certain respondents for analysis in this study. The respondents used in testing the hypotheses were selected if they conformed to three attributes: 1.) male, 2.) Eskimos, and 3.) ages 18 to 60 years inclusive. The justification for this attribute selection deserves exposition.

The Eskimos attribute was utilized first because it was the common ethnic element in all four surveys and therefore allowed maximum use of the available data. In addition, as a matter of research practicality, it seemed reasonable to conduct an initial analysis on one population only. Given the particular historical-cultural considerations of any Northern population, it is difficult to justify and initial analysis that mixes groups having different heritages.

The age selection was set at 18 through 60 years for

these limits included all persons who are within the employment market and for whom complete data were available. The sex characteristic was used first because it is males who have had a relatively long history of employment and, secondly, because to include females, who when working have had different types of employment experience, would contaminate the internal validity of the findings. The constraints imposed on the sample only have the effect of making the analysis more manageable and giving the results greater internal validity. It should be taken as a suggestion for further research that careful analysis using other age, sex, and ethnic characteristics be conducted so that full utilization and maximum generalizability of results can be established.

3.3 SELECTION OF INDICATORS

The hypotheses presented in Chapter 2 contain six central concepts. These include education, age, school type, pre-school bilinguality, pre-school area of residence, and work adjustment. The following empirical indicators of these concepts were chosen for use in the data analysis.

a.) Education: The Independent Variable

Educational attainment was measured by the conventional

indicator "highest grade completed". Another available indicator "years attended school", though not used in the data analysis, would yield essentially the same results because it is correlated at the 0.98 level with "highest grade completed". Therefore, interpretation of the findings will be the same whether the independent variable is interpreted as educational "exposure" or educational "attainment".

b.) Age, School Type, Pre-School Area of Residence And Pre-School Bilinguality: The Control Variables

The standard measure of age, "age at time of enumeration", was employed. The hypotheses require that pre-school area of residence be dichotomously measured as "Eastern" or "Western" depending primarily on the degree of industrialization present in the area. Such a categorization for each respondent was indirectly inferred by using data on birth place, settlement size, and mobility.

An indirect inference of the respondent's school type also had to be made. The dichotomous categorization of this variable was made by using data on birth place, mobility patterns, age, and location and dates of day school establishment. From this information each respondent's attendance at day or residential school was established.

The final control variable, pre-school bilinguality, had an available indicator in the data set. The indicator used was labelled "language used most often at home". If English was used most often in the respondent's home, relevant pre-school bilinguality was inferred. If English was not listed then it was assumed that relevant bilinguality was not present in the respondent's pre-school socialization.

c.) Work Adjustment: The Dependent Variable

This concept is a multidimensional one and consequently four different indicators were used in its measurement. The indicators were type of employment, length of employment, job stability, and income.

"Type of employment" measures the kind of job the respondent held. Each respondent's employment type was ranked using Blishen's occupational prestige scale (Blishen 1967). In this way one socially important dimension of employment, job prestige, was measured. A second, different employment dimension, "length of employment", was measured by the total number of weeks the respondent held employmet during the year previous to the survey. The third indicator of work adjustment, "job stability", was measured by the total number of jobs the individual held during the year previous to enumeration. The final indicator, "income", was

measured by the total number of dollars the respondent aquired from employmet (not from social welfare) in the year previous to enumeration.

3.4 SELECTION OF A DATA ANALYSIS TECHNIQUE

The principal hypothesis presented in Chapter 2 predicted a U-shaped curvilinear relationship between education and work adjustment. The majority of the other hypotheses predicted variants in degree, but not type, of this relationship. In addition to these hypotheses, a prediction about the strength of the relationship between education and work adjustment was also made. In the testing procedure a choice of the most appropriate analysis technique will depend heavily on whether the principal hypothesis is verified. Since the indicators of the independent and dependent variables are measured at the ordinal and interval levels, a simple test can be made of whether some non-linear relationship significantly better fits the data than a linear relationship.[5] The outcome of this test will influence the selection of the most appropriate data analysis technique to be used for testing the strength of the relationship after the principal hypotheses have been tested.

3.5 TESTING THE CURVILINEAR HYPOTHESES

Blalock (1972: 408-413) provides an F-test which compares whether any non-linear relationship significantly better fits the data than a linear relationship. The test takes the following form:

$$F_{k-2,N-k} = \frac{(E^2 - r^2)(N-k)}{(1 - E^2)(k - 2)}$$

where E^2 is the correlation ration (eta squared), r^2 the correlation coeffecient, N the sample size, and K the number of categories into which the independent variable has been divided. In short, this test measures whether the proportion of variation explained by any non-linear form of relationship is significnatly greater than that explained by a linear model.

Using 0.01 as the significance criterion, Table 1 presents the results of the F-tests between education and the indicators of work adjustment controlling for the relevant variables. Of the 40 tests only 16 show any non-linear relationship as providing a significantly better fit than the linear model. This initial result is important since it shows that, for the majority, a linear model better describes the relationship between education and work

adjustment than does the predicted curvilinear or any other relaticnship.

But in 40 percent of the tests some non-linear model provides a significantly better description of the relaticnship between education and work adjustment. Therefcre it is important to see whether , in these 16 tests, the relaticnship between educaticn and work adjustment takes the predicted U-shaped curvilinear form. This can be done most efficiently by observing the form the graphs take when education is plotted against the mean work adjustment scores. Figures 1 though 16 show these graphs. In none of the graphs is there a clear curvilinear relaticnship of the hypothesized type.

From these tests we conclude that any hypothesized U-shaped curvilinear relaticnship between education and work adjustment in our sample must be rejected. Such a relationship is absent both in the uncontrolled situation as well as when age, pre-school bilinguality, school type, and pre-school area of residence are controlled. In the majority, the linear model provides a better fit than any non-linear model; and, fcr those cases in which some non-linear relationship fits significantly better, the relaticnship does not take the hypothesized curvilinear form. As a ccnsequence hypotheses 1 through 4, as presented in Chapter 2, are rejected.

With this conclusion it is established that the relationship between education and work adjustment is parsimoniously best-fit by a linear model. The important question now centers upon testing Hypothesis 5 and establishing how strong the linear relationship is between education and work adjustment.

3.6 TESTING THE IMPORTANCE OF EDUCATION FOR WORK ADJUSTMENT

Since it is established that a linear model is the most utilitarian for examining the relationship between education and work adjustment, the squared correlation coeffecients in Table 1 provide one method of estimating the affect the two variables have for each other. But this method is problematic because it is difficult to accurately estimate how much the control variables are influencing the relationship.

The technique of path analysis (Land 1969; Heise 1969) overcomes this difficulty. Based on the principles of multiple regression, this technique produces a linear combination of independent variables that correlate as highly as possible with the dependent variable. Comparing differences between the actual value of the dependent variable and that predicted by the linear combination of

independent variabels produces an estimate of the residual variation or error term. From this any combination of independent variables and their relationship to a given dependent variable can be expressed by a multiple regression equation of the form:

$$D = b_1I_1+b_2I_2+\ldots+b_nI_n+c+e$$

where D is the dependent variable, the I's are the independent variables, the b's are the regression coeffecients, c is a constant, and r is the residual or error term.

From such an estimation procedure path coeffecients can be generated. These are the standardized regression coeffecients from the multiple regression equation. The path coeffecients are calculated by multiplying the unstandardized coeffecients by the ratio of the standard deviation of the independent variable to the standard deviation of the dependent variable. With a range of possible values from plus to minus one, a path coeffecient indicates the proportion of variation in the dependent variable that is directly, or solely, attributable to variation in a specific independent variable, controlling for all other variables causally antecedent in the model.

Employing this technique, Figures 17 through 20 present the path models between all independent variables and the work adjustment indices. Examining these models provides some interesting insights into the relationship between various independent variables and work adjustment.

First, the error term (e) for the work adjustment indicator in each model is very high. In all instances it is over 0.90. This evidence alone is a sufficient test for the acceptance of Hypothesis 5 and allows the conclusion that education , or any of the other independent variables in the model, has a very weak relationship to work adjustment.

The models also provide additional evidence about the relationship between these variables and work adjustment. Figure 17 shows that education is the only variable in the model that has a direct effect on job type, and this effect is only moderate. In Figure 18 education's effect on income is seen as insignificant while school type has a small effect. Figure 19 shows education as having a small negative effect on length of employment, while a similar but positive effect is produced by pre-school bilinguality. Figure 19 also shows type of school attended as having a moderate direct relationship to length of employment. Finally, Figure 20 shows education's effect to be greatest

on job stability with a path coeffecient of 0.46. Moderate direct effects on job stability are also provided by age and type of school attended.

In summary, these direct effects are important for they show that education alone has only the positive moderate effects of increasing the chances of holding only one job and of making one's job more prestigeous. Education has no direct effect on an individual's total earned income and has a moderate negative effect on the total time employed. The effects of going to residential school only slightly increase earned income and job stability. As well attending residential school also moderately effects total time employed. Of the remaining variables in the model, only two have any direct effect on work adjustment. Having a bilingual background moderately increases the total time employed and greater age, in a similar manner, increases job stability.

Since the significant direct paths between all the independent variables causally prior to work adjustment are the same in every model, attention can be focused on Figure 17. The first important observation is that, relative to most sociological research, the error term in predicting education is small. The explained variation in this variable is attributable to two direct paths. First, there is the relatively strong and well documented negative

relationship between age and education. Second, is the observation that residential school has a relatively strong positive relationship to amount of education aquired. These findings suggest that amount of education can be quite well predicted knowing both age and school type attended.

The model contains only three other direct paths of interest and these results conform to expectations. Both age and area of pre-school residence have a moderate effect on school type attended and are likely a function of largely pre-determined opportunity. Finally, the previously documented effect of area of residence upon bilinguality is supported by the strong path in the model.

3.7 SUMMARY

This chapter described the limitations and sources of data to be used in testing the hypotheses presented in Chapter 2. Descriptions of the operational definitions and the data analysis techniques to be employed were also included. The hypotheses were tested and a preliminary presentation of the findings was made. Since no U-shaped curvilinear relationships were discernable, hypotheses 1 through 4 were rejected. But Hypothesis 5, which predicted a weak relationship between education and work adjustment, found clear support. As well, all other variables in the

models were found to have little relationship to work adjustment. The implications and conclusions that these findings have will be discussed in the final chapter.

CHAPTER 4

SUMMARY AND IMPLICATIONS

This chapter will summarize, integrate, and explore the implications of the previous chapter's findings. The argument will be made that the results of this study on Eskimos education have theoretical, substantive, and policy implications.

4.1 THEORETICAL IMPLICATIONS

The second chapter employed a symbolic interactionist perspective to argue for the plausibility of a U-shaped relationship between Eskimos education and work adjustment. Since this relationship was empirically negated by the findings presented in Chapter 3, it is worthwhile to consider what importance these findings have regarding the utility of this theoretical perspective.

Reference group theory, as part of the symbolic

interactionist tradition, is one type of empathetic explanation. The heart of such explanatory modes lies in "imagined possibility" (Nettler 1970:34). For a variety of reasons empathetic explanations have been criticized (Nettler 1970:33-84).

Among other problems, it is very difficult to test an empathetic explanation. This occurs because explanations of this type rest primarily on ex post facto "understanding" rather than prediction. This difficulty is compounded because many central concepts in such theories (like "definition of the situation", "identification group" et cetera) are cognitive in nature and therefore difficult to measure. Consequent difficulties in an attempt to refute the theory result because it can always be argued that an incorrect "interpretation" of the cognitive components was made. Apparently, if a "correct" interpretation had been made, then ensuing hypotheses would have been confirmed by the data. It is often characteristic of these explanations that the "correct" cognitive interpretation appears in the form of an ex post facto justification.

For example, in this study the important causes of adjustment were depicted as cognitive. The degree of work adjustment was portrayed as a function of certain cognitive states induced by various demographic, socialization, and educational variables. But the findings presented in

Chapter 3 emphatically show that the structure of the relaticnship is not that predicted by the theory. Given this knowledge, at least three alternative possibilities are available. First, it could be that although the chosen independent variables are important, their cognitive impact was incorrectly interpreted. If this is the case, reinterpretation of the effect upon the Eskimos of age, school type, pre-school area of residence, pre-school bilinguality, and education will produce hypotheses consistent with the findings. Secondly, it might be that cognitive states are important for work adjustment but that the important independent variables affecting these states were not isolated. Finally, it might be that important causes of a less cognitive, more contingent nature have been neglected.

The first two of these possibilities are difficult to accept. The first possibility suggests that reinterpreting the cognitive influences of our independent variables would yield a relationship of a different structure that would predict better than the U-shaped curvilinear hypothesis. But the findings do not support this possibility. Perhaps a reinterpretation within the reference group perspective would predict a linear relationship (the curve which best fit) rather than the curvilinear one. But even this reinterpretation would not be of much help; for the linear

model was still only able to explain a small proportion of the variation in work adjustment.

The second alternative suggests that the relevant independent variables affecting the cognitive states which, in turn, influence work adjustment have not been isolated. Although this possibility is not ruled out by the data, and therefore commands further empirical attention, it does seem quite unlikely. The independent variables isolated in this study were consistently cited in the literature as the most relevant. This fact, when coupled with the evidence which shows that they have so little predictive power, severely reduces the tenability of this possibility.

The difficulties in accepting these two alternative possibilities suggests a third. Namely, that the apparently relevant independent variables do not have the lasting cognitive influence for work adjustment that a symbolic interactionist perspective would predict. If this conclusion is correct , it can be suggested that the relevant variables affecting work adjustment may be of a less cognitive, more immediate type. For example, variables like present marital, financial, and job opportunity conditions may be the more relevant predictors of an Eskimo's job prestige, income, employment duration, and stability. And these conditions, for predictive purposes, may be assessed quite independnetly of much previous

historical circumstance or cognitive condition.

The theoretical implications of this section therefore argue that the predictive utility of a symbolic interactionist insight into our problem is weak. It is suggested that further theoretical reconsideration might more fruitfully focus on more contingent environmental circumstances as causes of work adjustment. But this prescription, like any other, must be purchased at a cost. Recognizing that increased predictive power often does not yield satisfactory "understanding" of the type required by a symbolic interactionist, leads us to hypothesize that a theoretical prescription, like that suggested here, will also be found deficient.

4.2 SUBSTANTIVE IMPLICATIONS

The substantive conclusions of this study closely follow the argument made in the review of the educational literature. Essentially that review stressed three points. First, that the educational literature and policy of the fifties concluded, from rather weak support, that there was a close relationship between education and employment mobility. Second, that much literature of the 1960's challenged this optimistic conclusion. And, finally, that the educational policy present until very recently in the

Northwest Territories was based on the presumptive conclusions of the 1950's and, therefore, deserved adequate empirical investigation.

The substantive conclusions of this study of Eskimos education can be interpreted as challenging the assumptions on which the educational policy rested. Education, or any of the other independent variables considered, explains little of the variation on any of the four work adjustment indices. But closer examination of the path models reveals some interesting insights.

What little effect education does have upon work adjustment appears to be generally unattractive. Although greater education moderately increases the prestige of one's job (Figure 17), the conclusion from observation of the other indices is not so attractive. Figures 18 through 20 show education as unrelated to income, as moderately increasing the probability of holding one job, and as deceasing the total time employed. In concert, these findings suggest that education's substantive significance for work adjustment among the Eskimos is to increase the chances of holding only one slightly more prestigeous job for a shorter time. An empirical conclusion in clear opposition to the results predicted by the education policy which generated them.

Keeping in mind that none of the variables explored in this study were found to make much difference to work adjustment, some comment can be made from what limited knowledge we have. First, acknowleding all of the correctly abusive observations that have been made about residential schools, it appears that they do have the direct effect of increasing job stability, time employed, and income. Perhaps the often offensive kind of conditioning that goes on in these institutions is like that required to stay with one job for a substantial period which, consequently, increases income. It may also be that those job types which pay more require the kind of attitudes instilled by residential school experiences. Supporting this argument it is interesting to note that age is moderately related to job stability and, to further the point, that age is also a moderately good predictor of residential school attendance. These collaborative findings suggest that perhaps the isolated institutionalization of a residential school instills, at an unarguably high cost, a set of experiences that later prove useful for available employment.

But, to reiterate, it must be emphasized that we know very little about what effects work adjustment. This fact is evident from observing the very high error terms for each of the work adjustment indices. On the other hand, the models do show that we know quite a lot about what effects

educational exposure and attainment. The error term in predicting this variable is only 60 percent of that of work adjustment. Essentially two direct paths contribute to this predictive accuracy. One strong predictor is age which has its usual inverse relationship to education. And second, it again appears that the institutionalized existence of the residential school quite forcefully produces increased education. However, it will be noted that no definitive evidence is available to test whether this increased educational attainment could not have been achieved by day schools. The available evidence mainly suggests what widespread residential schooling has been able to achieve. Since high school opportunities through attending day school have been limited, the efficacy of the residential school experience may still be held in doubt.

These substantive conclusions about the predictability of education and work adjustment lead us to another. And this can be considered as a note on past and present native educational policy in the Northwest Territories.

4.3 SOME CONCLUSIONS ABOUT PAST AND PRESENT EDUCATIONAL POLICY IN THE N.W.T.

It was previously cited that past native educational policy, the policy to which our Eskimos population was

exposed, was very interested in increasing educational exposure. Amd this policy was based on an assumption; the assumption that education was important for aquiring and adjusting to available employment opportunity. The substantive findings of this study allow us to comment upon this policy's efficacy.

First, freely accepting the assumption on which it was based, the policy does appear to have isolated variables, like the residential school, which considerably increase educational exposure. In this way the native educational policy of the fifties and sixties achieved an objective. It was able to considerably increase native educational exposure and attainment. The problem occurs when it is asked whether this effective educational exposure had its assumed consequences for employment. Our data suggest that it did not. Examination of all relevant independent variables in this study show that we know almost nothing about predicting work adjustment.

This conclusion, knowing recent empirical investigations, is not too surprising. Previous native educational policy in the North was based more on optimistic belief than on well-documented evidence. And, as Nettler (1973) has argued, these two camps are usually engaged in a protracted conflict. The tragedy of which is that policies do have consequences for peoples lives. And, to the extent

that native people had faith in education's ability to increase their work adjustment, they have likely been disappointed.

But recent changes in the Northwest Territories native educational policy afford some grounds for a renewal of optimism (Robinson 1970,1973). The programmes outlined for elementary and middle education appear to be built toward maximizing more immediate goals of human interest rather than more long term, and predictably more difficult, goals like employment adjustment. In the curriculum outlines there appears an honest appeal for a programme built for those who live in a multicultural context. This would seem more sensitive and intelligent than the previous programme which was geared for middle class, white, Southern Canadian children. But enthusiasm, though important, should be tempered. In the knowledge that it is a long and difficult pilgrimage to carry the curriculum to the classroom, it might be well to suggest that resting stops should be taken along the way. And that at these stops, perhaps some critical evaluation of where one has come and where one desires to go should be made.

FOOTNOTES

[1]For Banfield each class subculture is classified by a distinct psychological orientation toward providing for the future. This attitude toward the furure is seen as a function of two factors: "1.) the ability to imagine a future, and 2.) the ability to discipline oneself to sacrifice present for future satisfaction. The more distant the future the individual can imagine and discipline himself to make sacrifices for, the "higher" his class" (Banfield 1968:47). It should be noted that this corresponds quite closely to Coleman's stress on the importance of attitude to educational achievement.

[2]The author acknowledges G. Berreman's (1964) article as the basis upon which much of the organization of the early part of this chapter is based.

[3]Linton uses the phrase "directed" culture change to refer to those situations "where the alien people have been dominant as administrators, school teachers, and other agents of authority" (Berreman 1964:231).

[4]Berreman (1964:246) elaborates the shortcomings of the term "reference group" even though it has seen widespread useage.

> "The term reference group has therefore been found unsatisfactory by those who have dealt with the concept. Hyman (1942:15) and Merton (1957:302) refer to reference groups and reference 'individuals'. Eisenstadt mentions 'reference norms', 'reference orientations', and 'reference standards' (Eisenstadt 1954:197,201,204,212,213). Bos (1962) prefers the term 'reference relationship'. French (1961:402) mentions reference 'point', which Hyman, Sherif and others have also found used as a more satisfactory general term. Hughes (1957:5) suggests 'anchoring groups' as equally appropriate."

[5]Increasingly in recent sociological research investigators are treating ordinally measured variables with interval techniques. The same practice shall be followed in this study. Especially with the case of path analysis, there are now convincing theoretical and pragmatic justifications for the practice (Boyle 1970).

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APPENDIX

Table 1. EDUCATION BY WORK ADJUSTMENT INDICES CONTROLLING FOR RELEVANT VARIABLES

	Uncontrolled					Controlling For Ages 18-24 Years				
Education By:		E^2	r^2	F	signif		E^2	r^2	F	signif
Job Type		.0765	.0497	1.923	---		.1264	.0512	1.549	---
Income		.0511	.0271	1.839	---		.1601	.0510	2.811	.01
Length Employed		.0467	.0281	1.418	---		.1053	.0057	2.409	.01
Job Stability		.0918	.0408	4.084	.001		.2274	.0422	5.186	.001

	Controlling For Ages 25-39 Years					Controlling For Ages 40-60 Years			
	E^2	r^2	F	signif		E^2	r^2	F	signif
Job Type	.1314	.0415	2.617	.01		.1061	.0295	1.754	---
Income	.1634	.1242	1.249	---		.1094	.0809	0.701	---
Length Employed	.0228	.0001	0.619	---		.0189	.0025	0.366	---
Job Stability	.1922	.1277	2.126	.01		.0641	.0418	0.522	---

Table 1. Continued

	Controlling For Bilingualism				Controlling For Non-Bilingualism			
	E^2	r^2	F	signif.	E^2	r^2	F	signif
Education By:								
Job Type	.0690	.0431	1.338	---	.1892	.1410	3.074	.001
Income	.0569	.0045	2.774	.001	.1134	.0396	1.787	---
Length Employed	.1043	.0661	2.129	.01	.1462	.0121	3.371	.001
Job Stability	.0958	.0264	3.829	.001	.1914	.0775	3.020	.001

	Controlling For Day Schooling				Controlling For Residential Schooling			
	E^2	r^2	F	signif.	E^2	r^2	F	signif
Job Type	.0473	.0081	0.393	---	.0964	.0367	0.937	---
Income	.0303	.0075	0.239	---	.0696	.0295	0.624	---
Length Employed	.0802	.0510	0.323	---	.0486	.0107	0.575	---
Job Stability	.0276	.0024	0.264	---	.0927	.0080	1.350	---

Table 1. Continued

	Controlling For Eastern Residence					Controlling For Western Residence				
		E^2	r^2	F	signif		E^2	r^2	F	signif
Education By:										
Job Type		.0806	.0487	1.313	---		.1769	.0711	2.537	.01
Income		.0479	.0000	1.976	---		.1103	.0444	1.750	---
Length Employed		.1459	.1104	1.627	---		.1123	.0056	2.839	.001
Job Stability		.0783	.0097	2.923	.001		.1354	.0414	2.570	.01

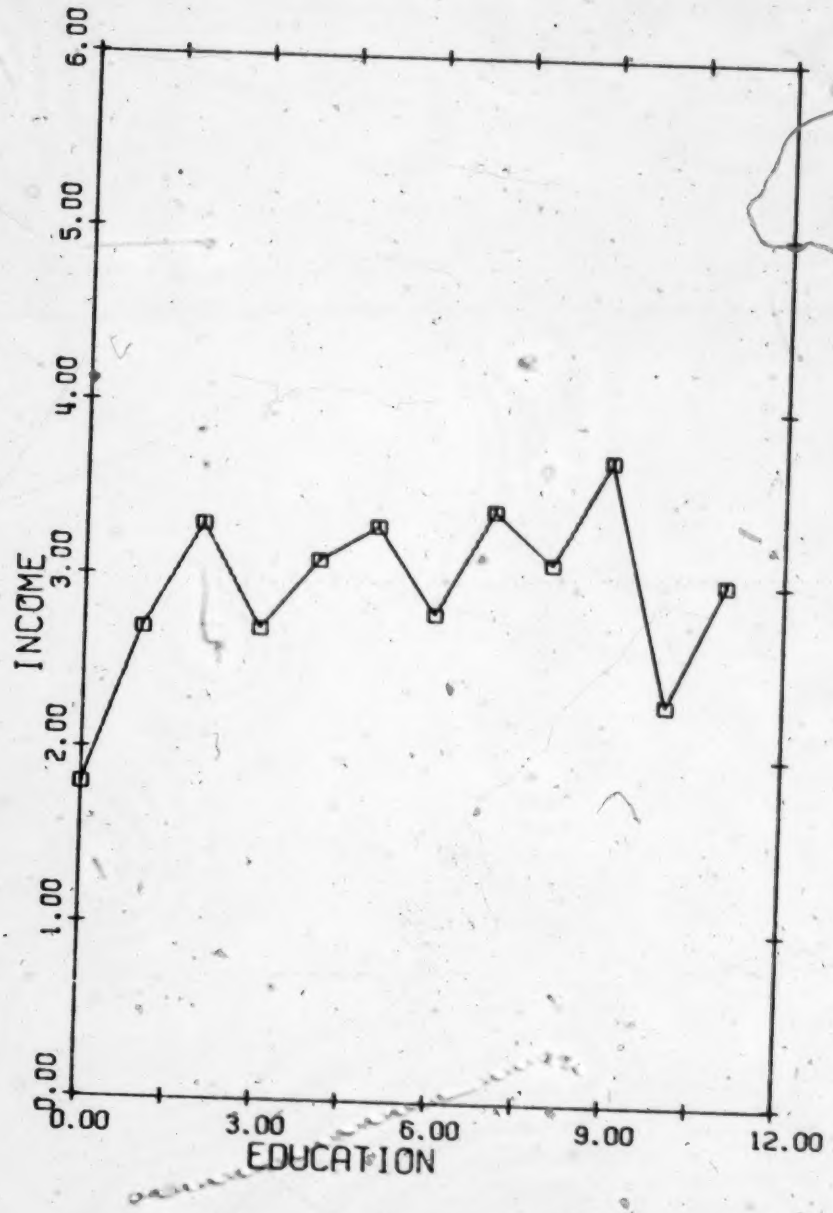

FIGURE 1 EDUCATION BY INCOME
CONTROLLING FOR AGES 18 TO 24 YEARS

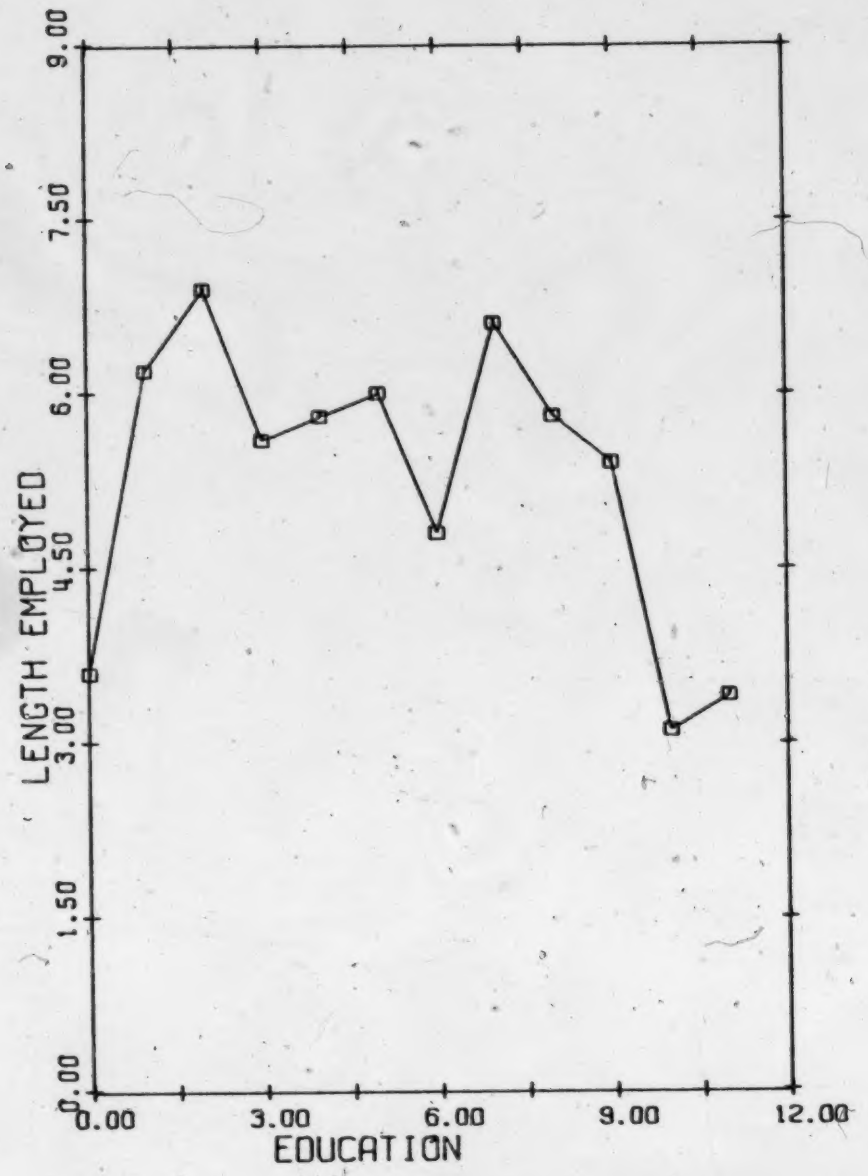

FIGURE 2 EDUCATION BY LENGTH EMPLOYED CONTROLLING FOR AGES 18 TO 24 YEARS

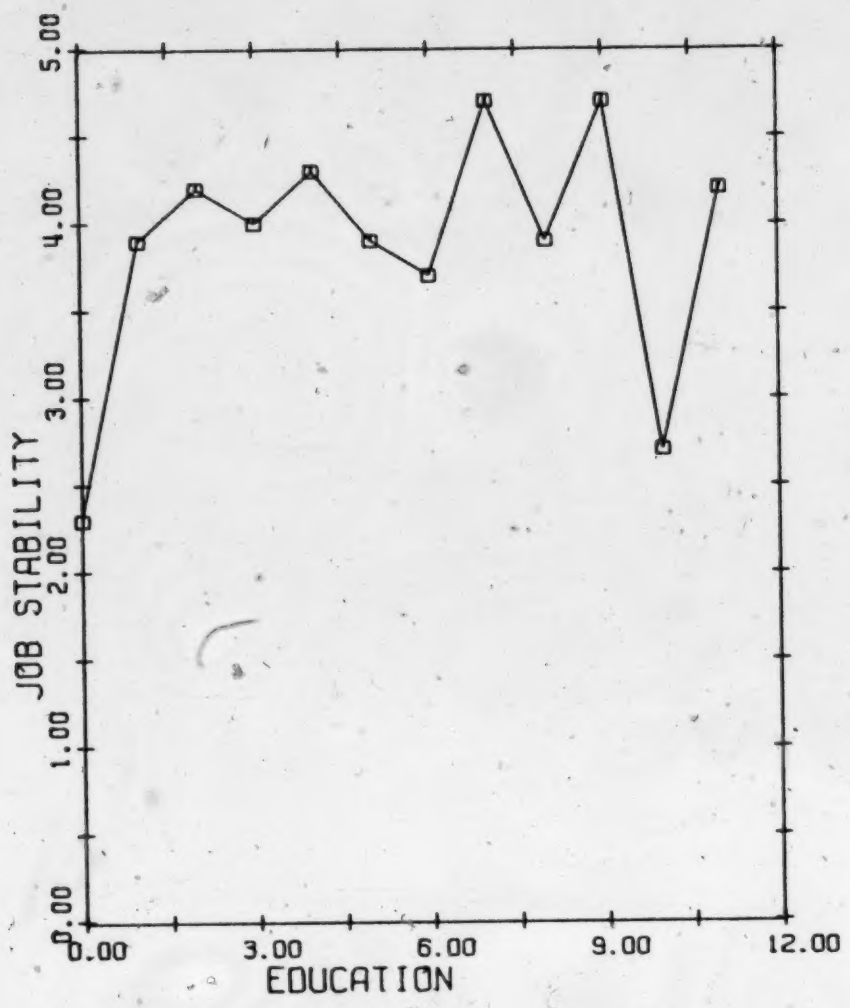

FIGURE 3 EDUCATION BY JOB STABILITY
CONTROLLING FOR AGES 18 TO 24 YEARS

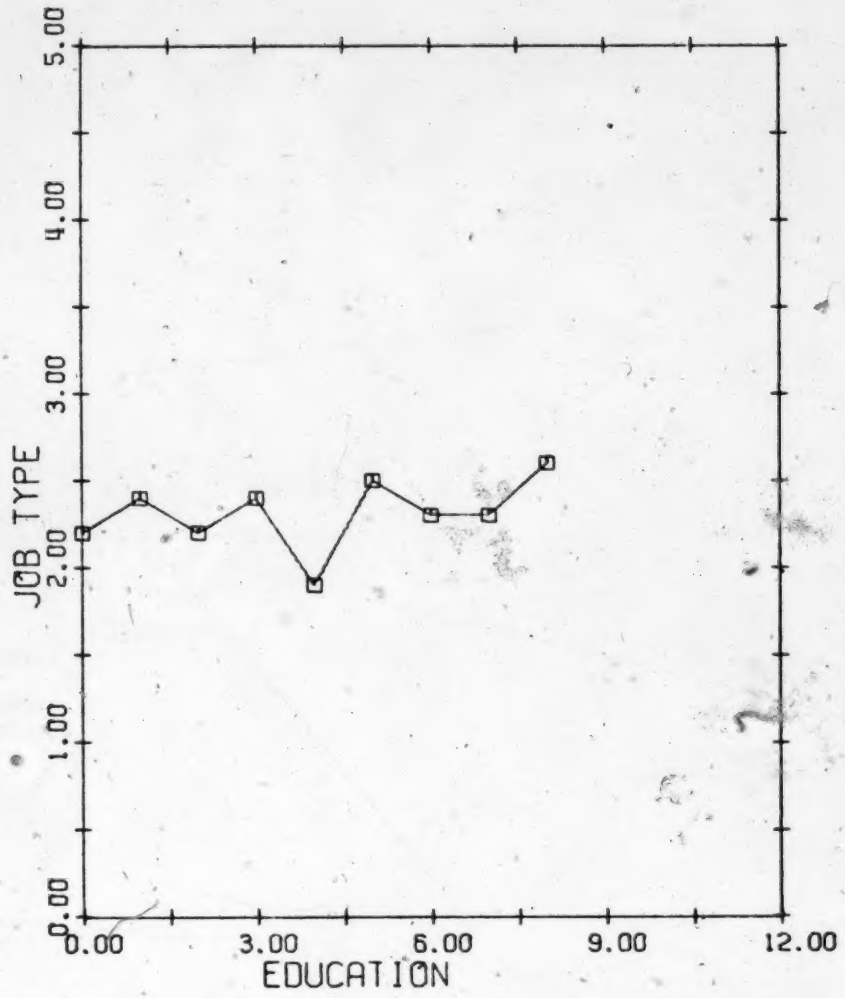

FIGURE 4 EDUCATION BY JOB TYPE
CONTROLLING FOR AGES 25 TO 39 YEARS

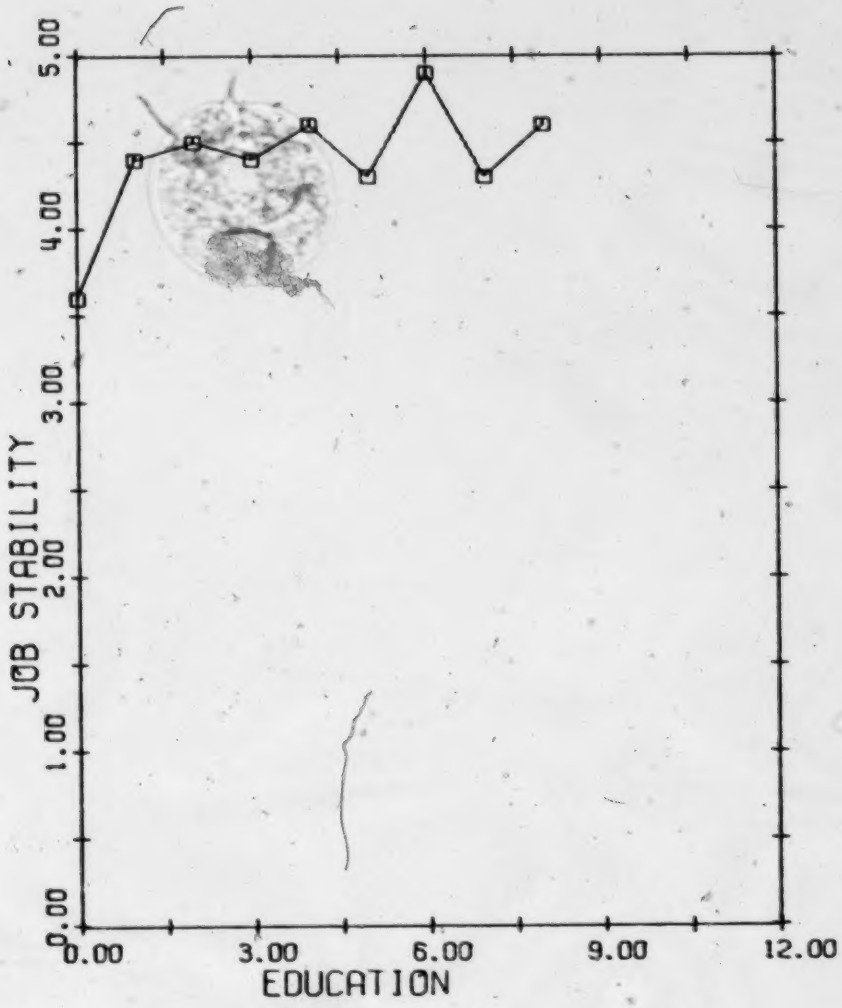

FIGURE 5 EDUCATION BY JOB STABILITY
CONTROLLING FOR AGES 25 TO 39 YEARS

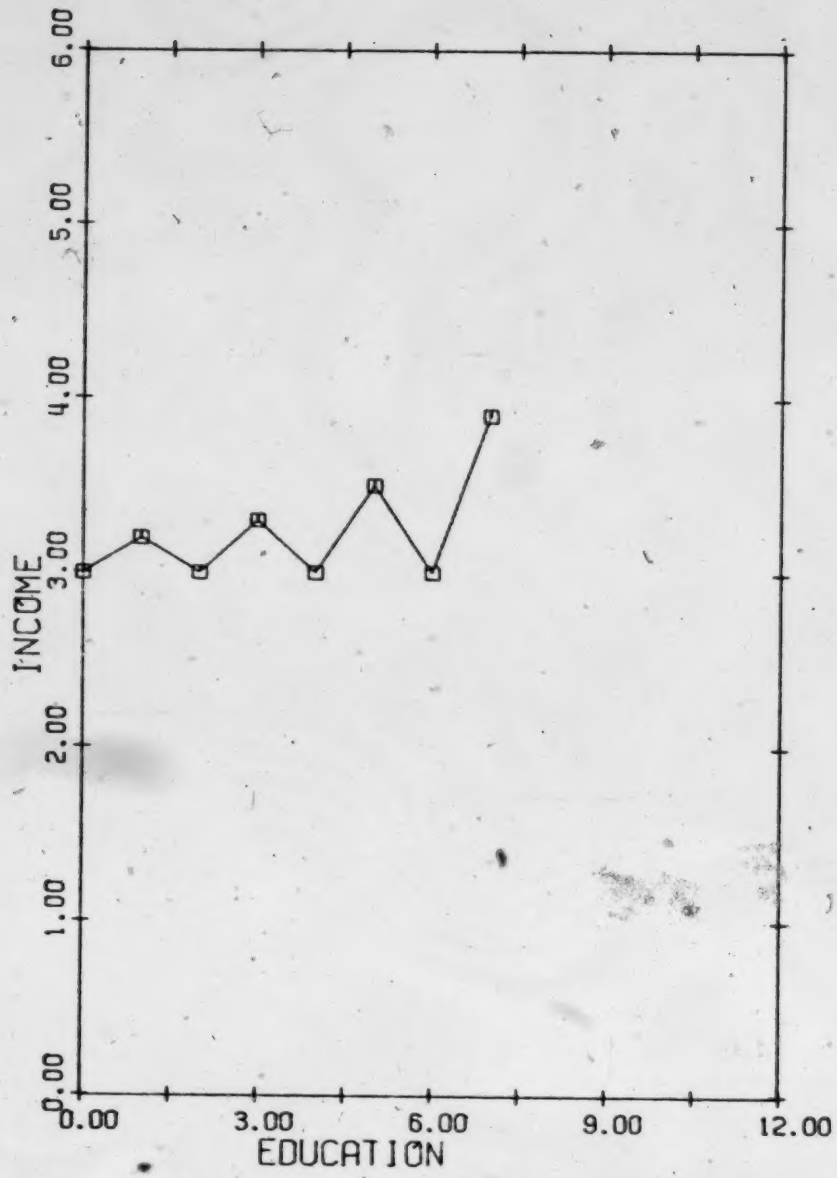

FIGURE 6 EDUCATION BY INCOME
CONTROLLING FOR BILINGUALISM

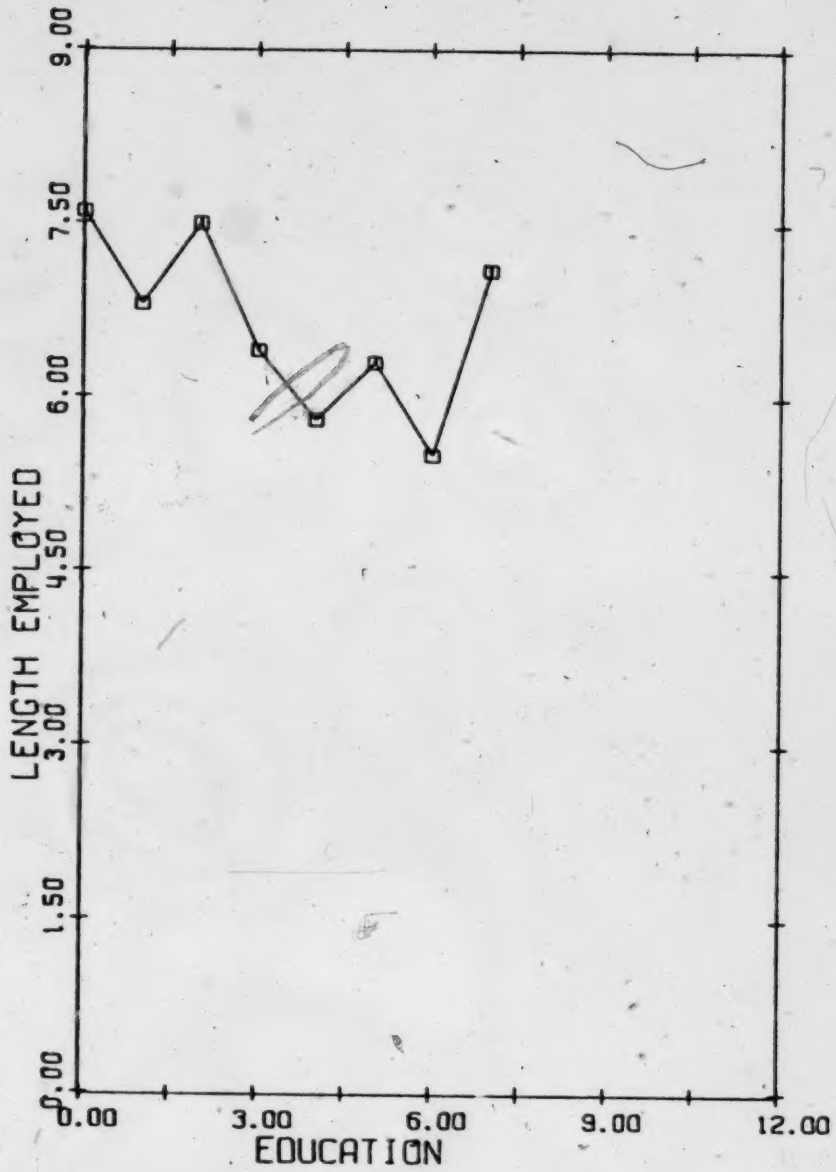

FIGURE 7 EDUCATION BY LENGTH EMPLOYED CONTROLLING FOR BILINGUALISM

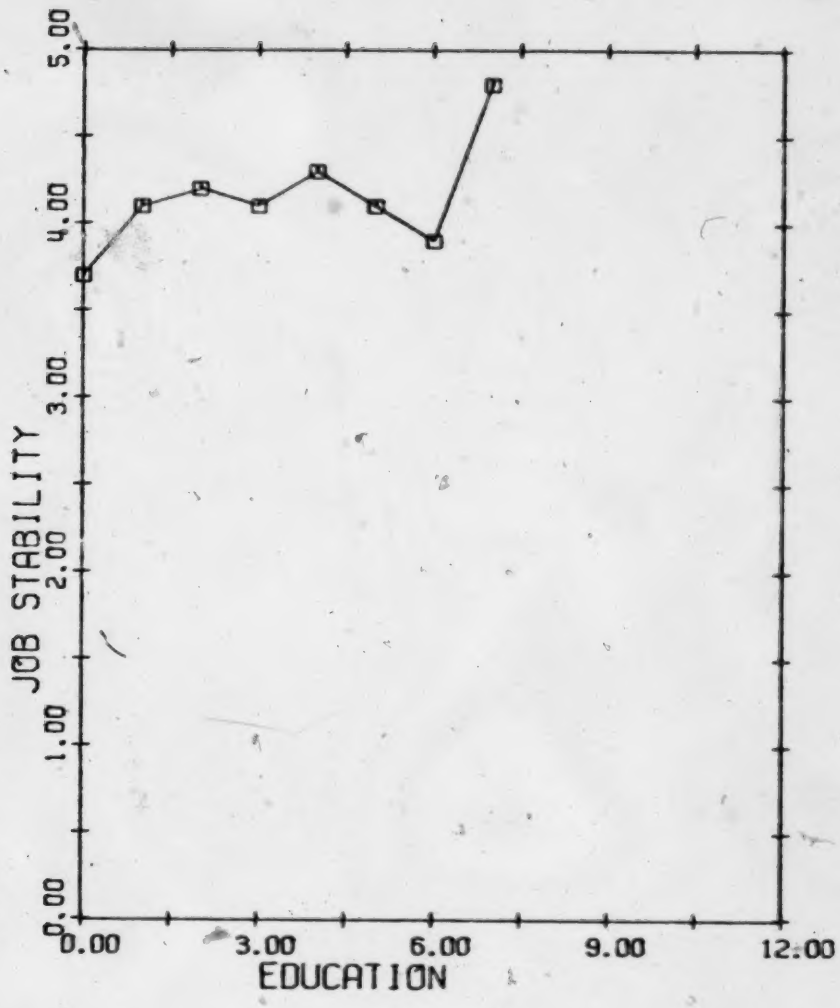

FIGURE 8 EDUCATION BY JOB STABILITY CONTROLLING FOR BILINGUALISM

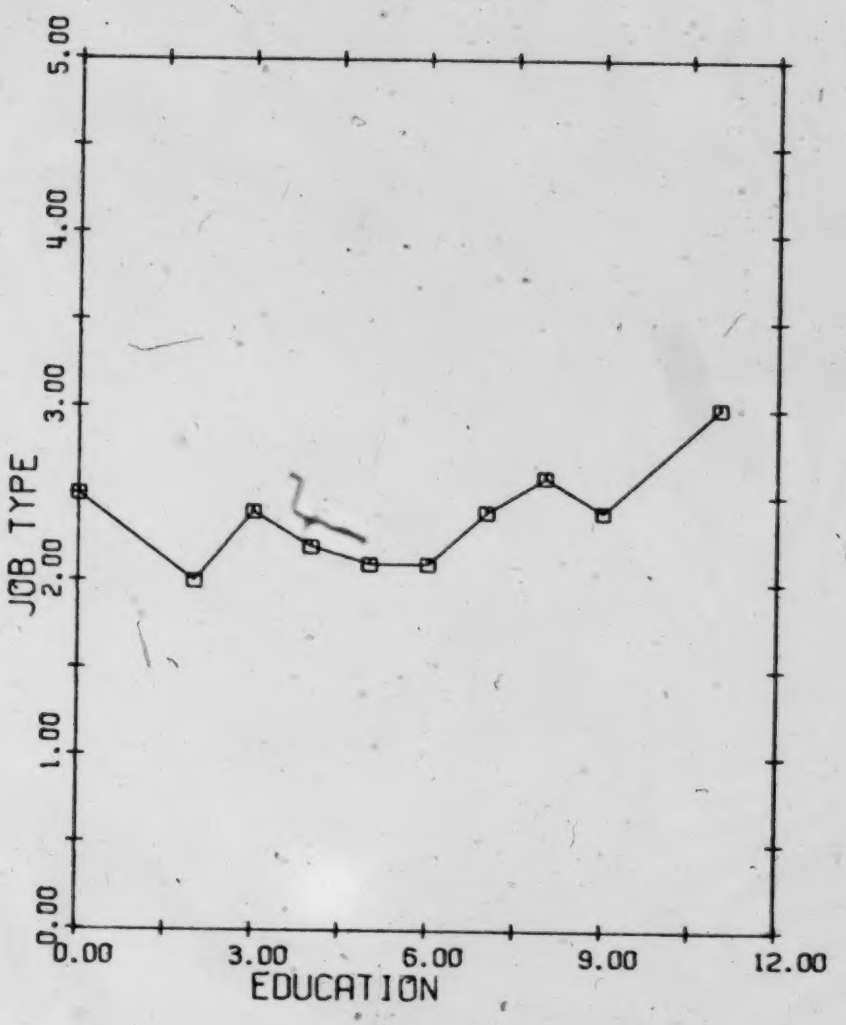

FIGURE 9 EDUCATION BY JOB TYPE
CONTROLLING FOR NON-BILINGUALISM

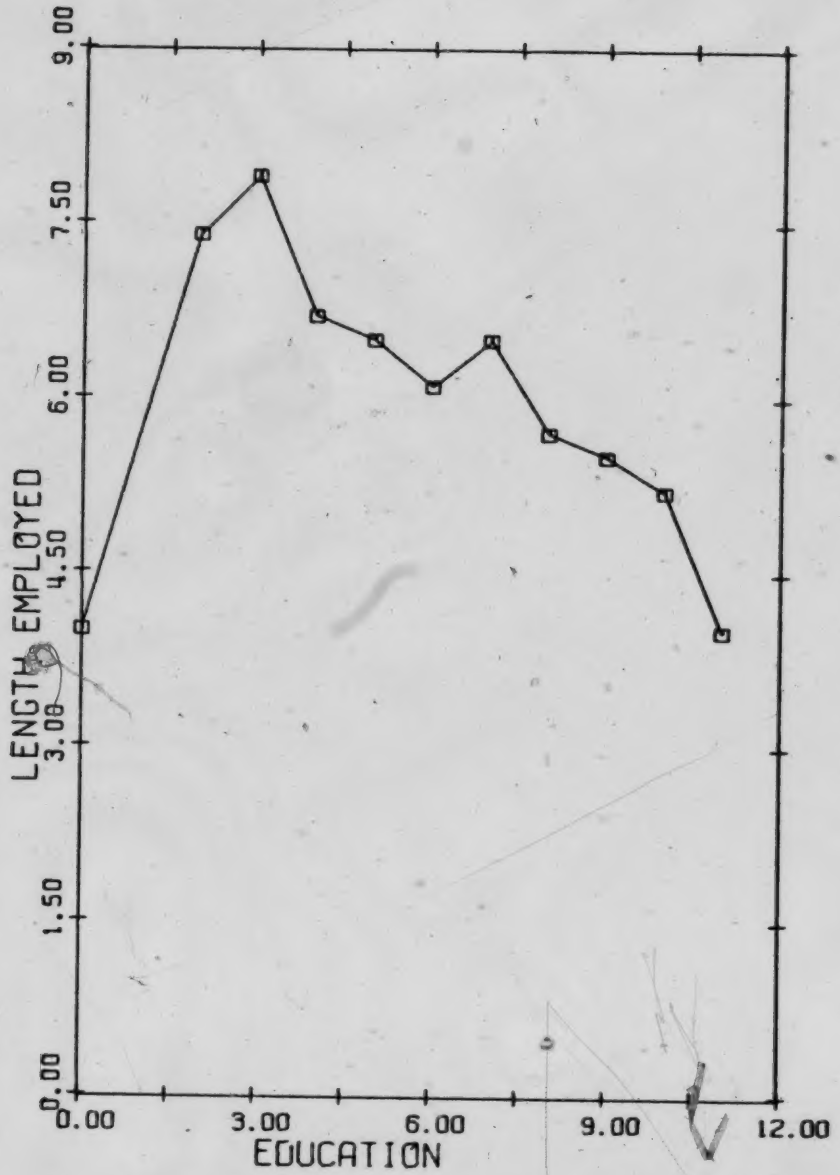

FIGURE 10 EDUCATION BY LENGTH EMPLOYED CONTROLLING FOR NON-BILINGUALISM

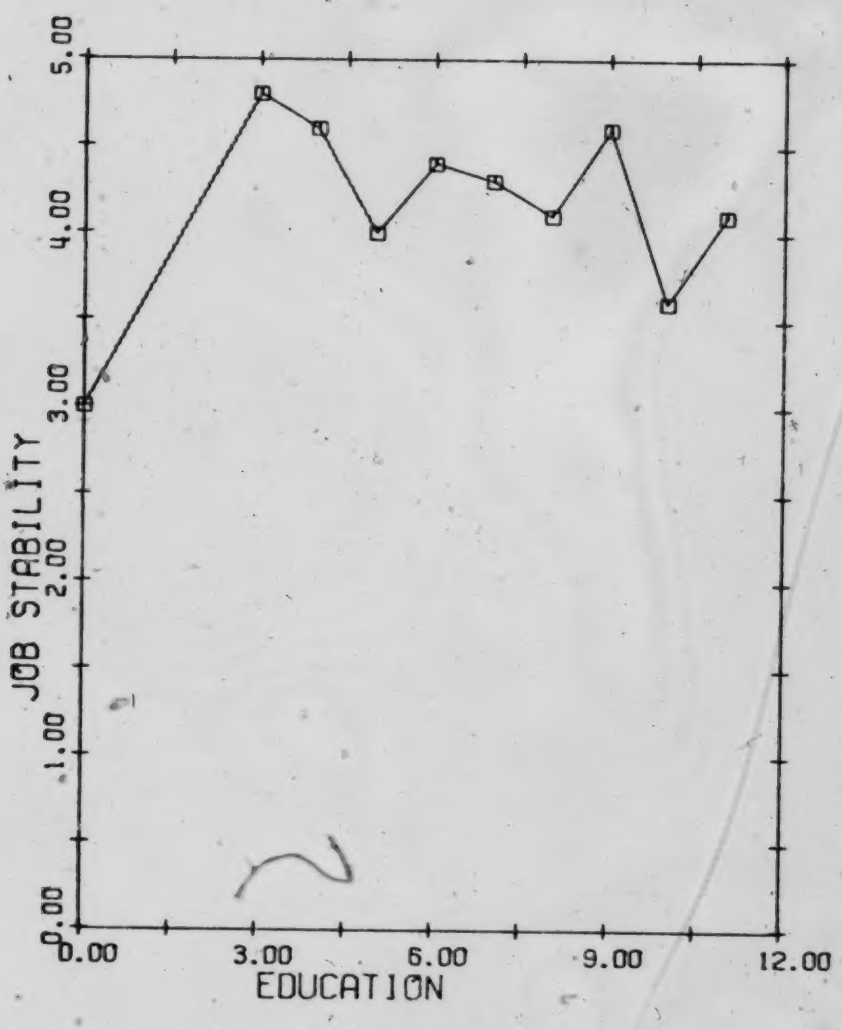

FIGURE 11 EDUCATION BY JOB STABILITY
CONTROLLING FOR NON-BILINGUALISM

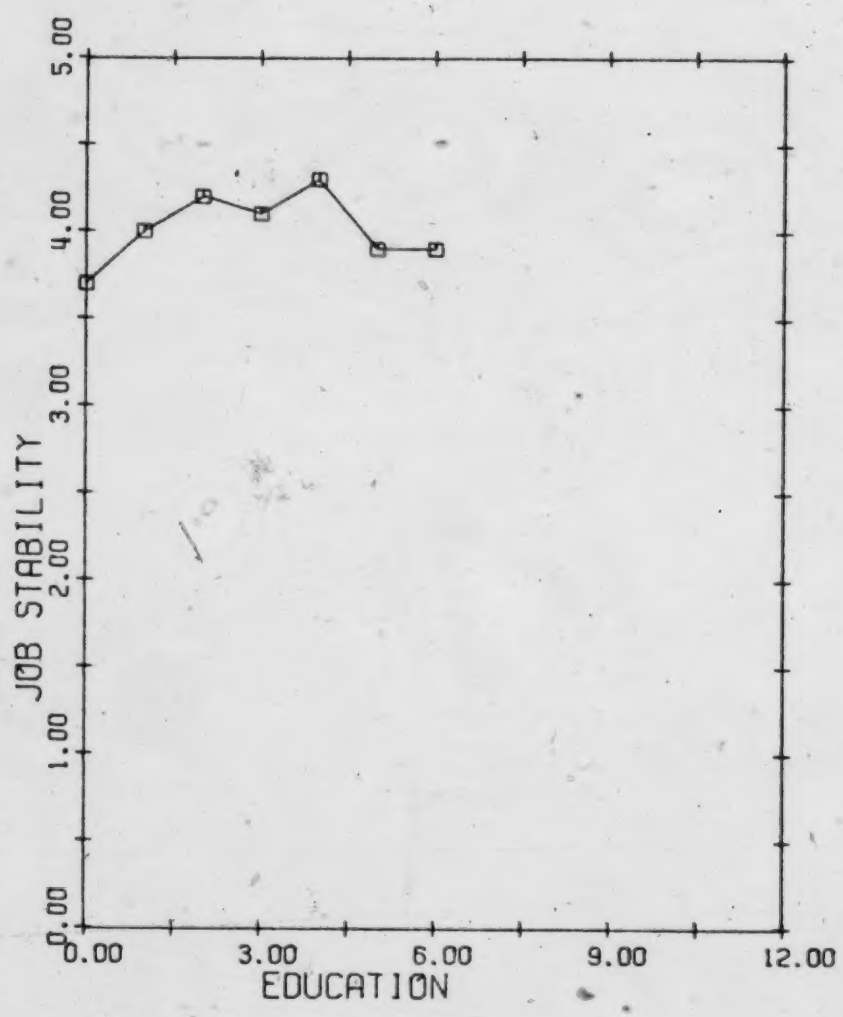

FIGURE 12 EDUCATION BY JOB STABILITY CONTROLLING FOR EAST PRE-SCHOOL RESID.

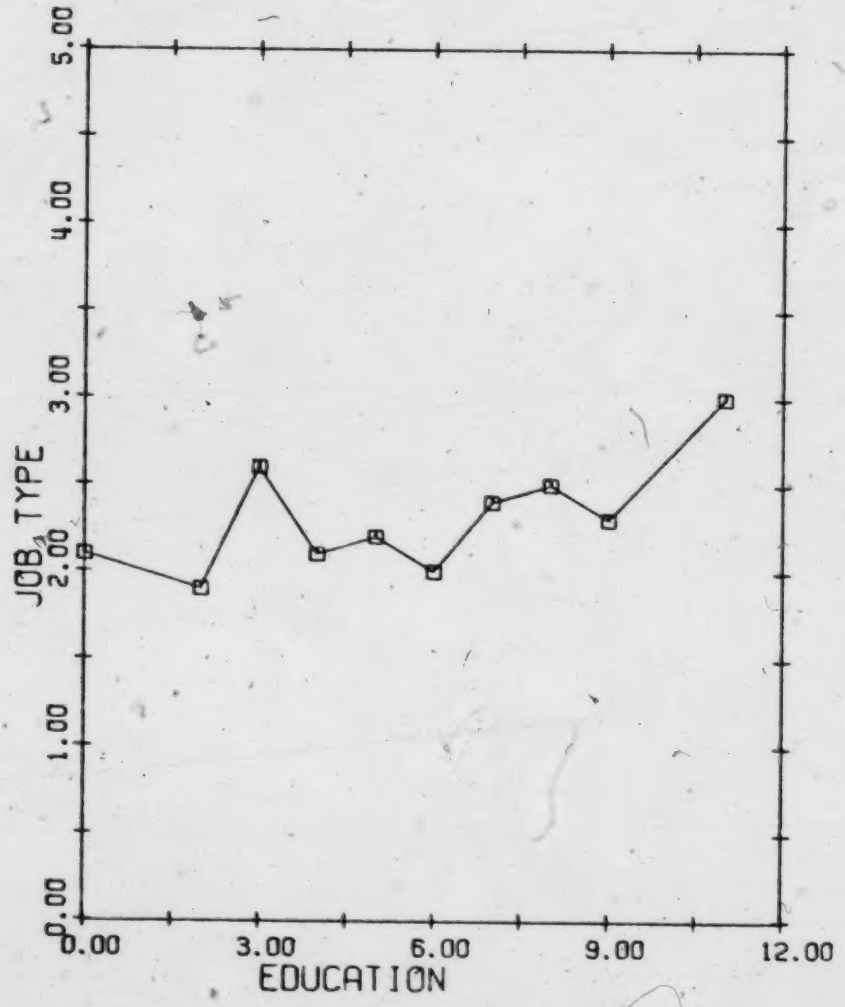

FIGURE 13 EDUCATION BY JOB TYPE
CONTROLLING FOR WEST PRE-SCHOOL RESID.

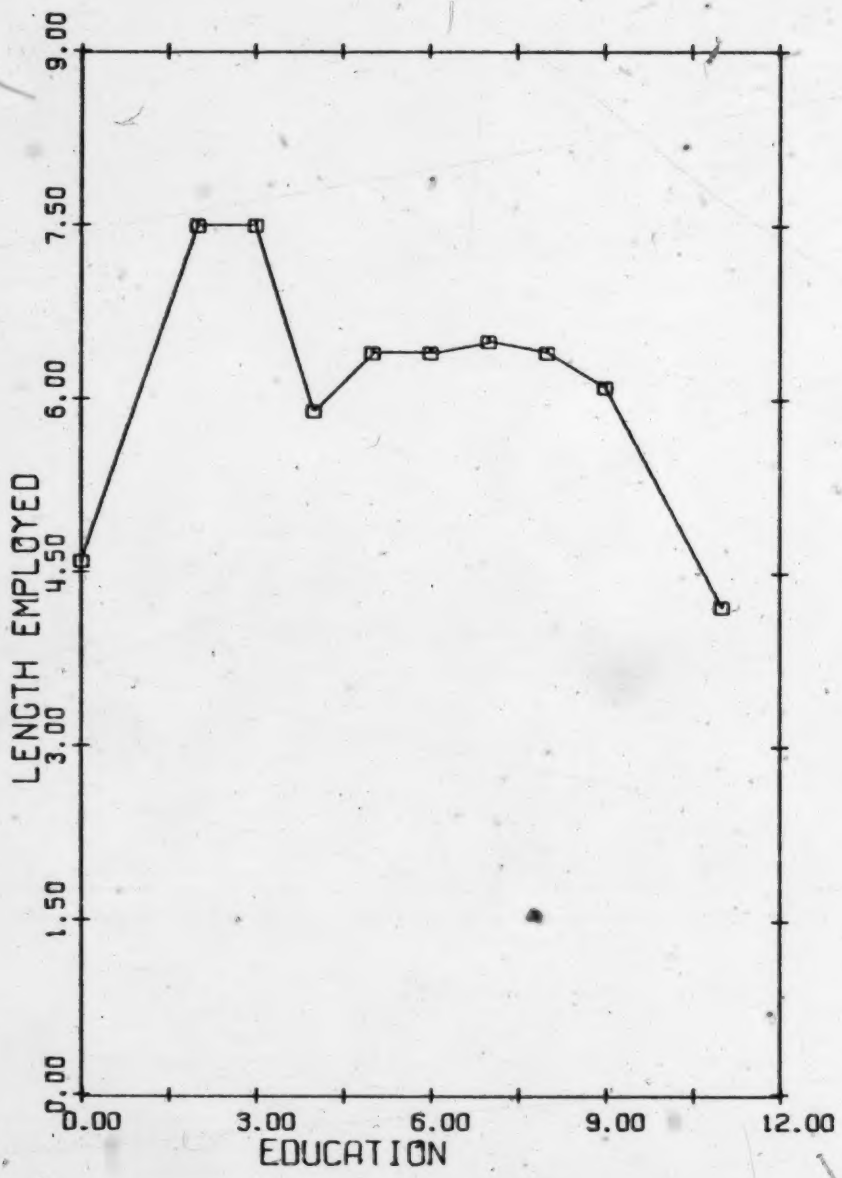

FIGURE 14 EDUCATION BY LENGTH EMPLOYED CONTROLLING FOR WEST PRE-SCHOOL RESID.

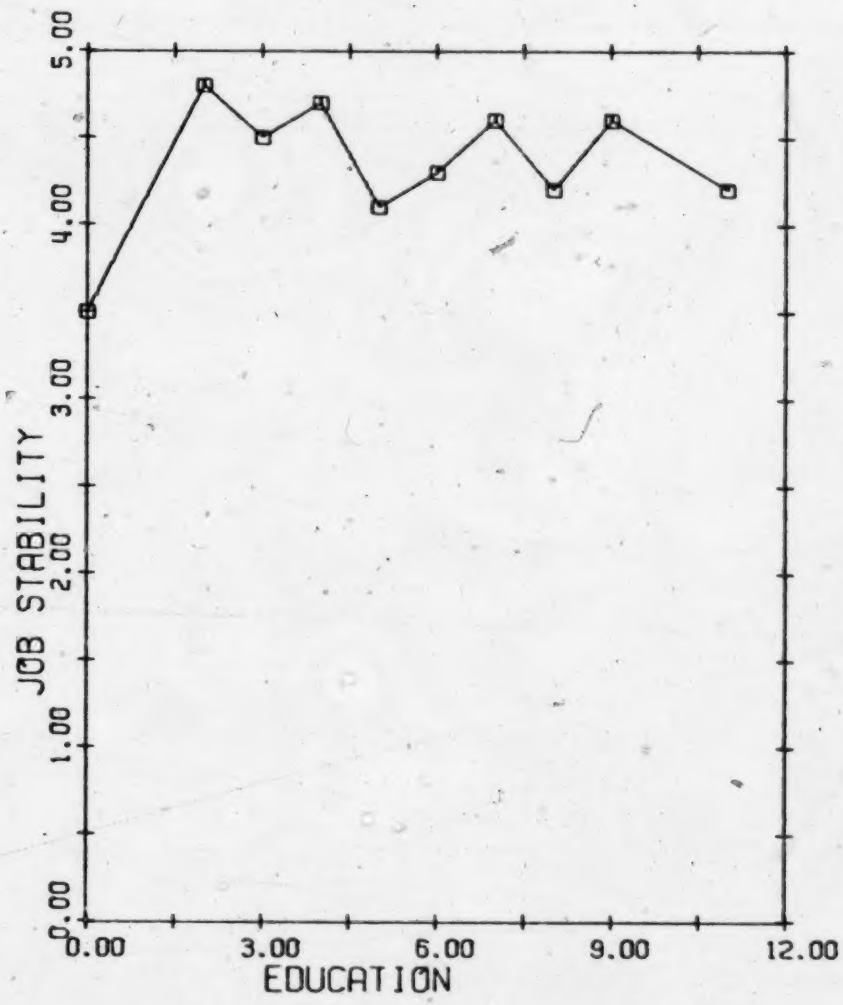

FIGURE 15 EDUCATION BY JOB STABILITY
CONTROLLING FOR WEST PRE-SCHOOL RESID.

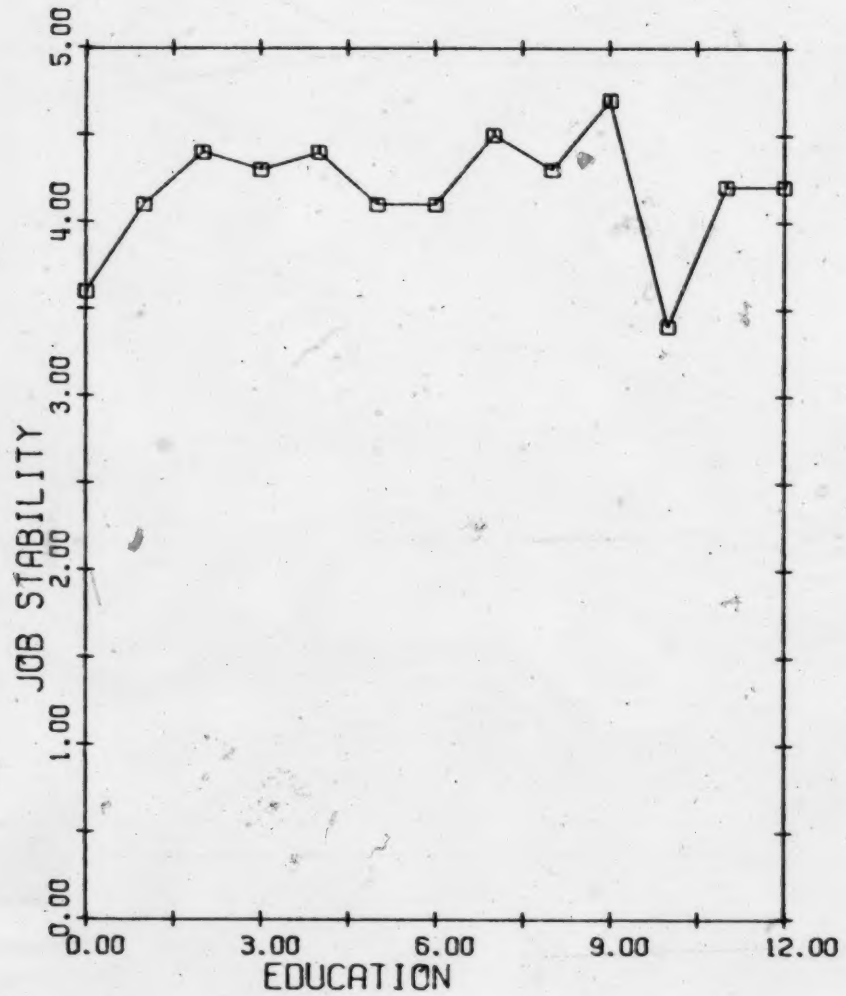

FIGURE 16 EDUCATION BY JOB STABILITY

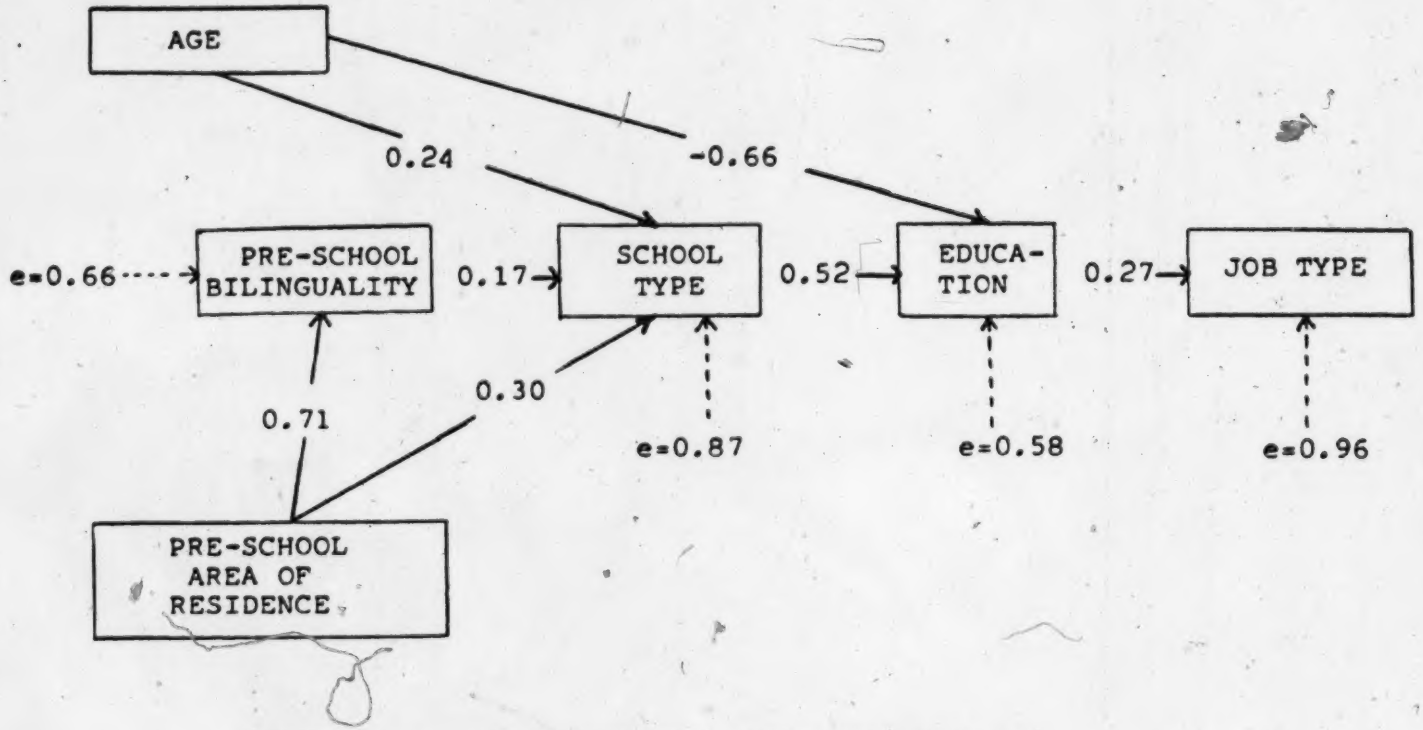

FIGURE 17. PATH MODEL EMPLOYING JOB TYPE AS DEPENDENT VARIABLE INDICATOR

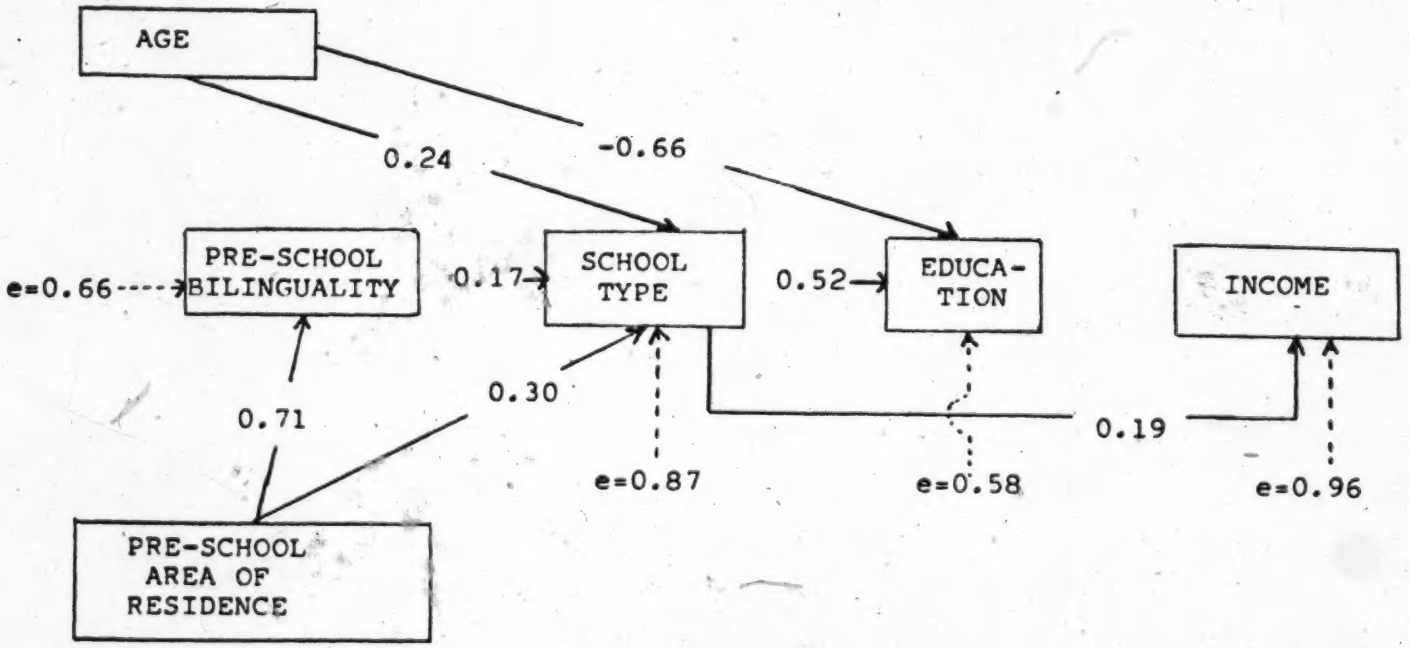

FIGURE 18. PATH MODEL EMPLOYING INCOME AS DEPENDENT VARIABLE INDICATOR

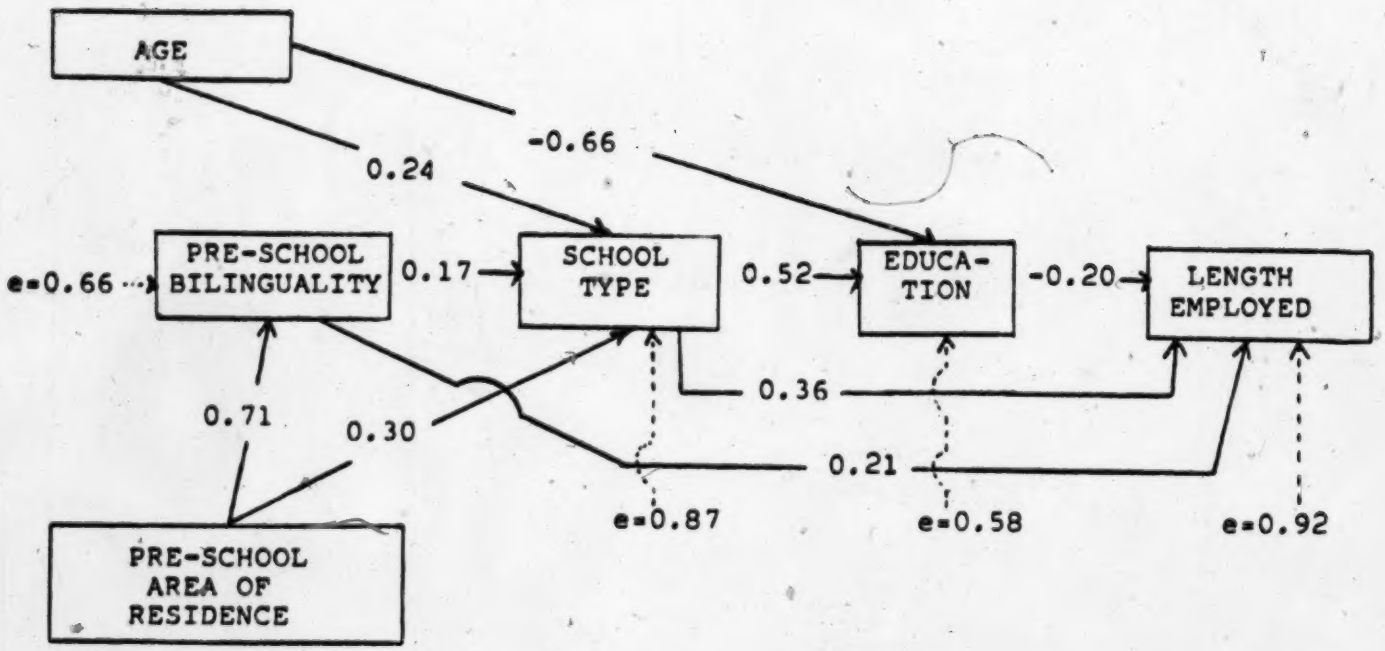

FIGURE 19. PATH MODEL EMPLOYING LENGTH EMPLOYED AS DEPENDENT VARIABLE INDICATOR

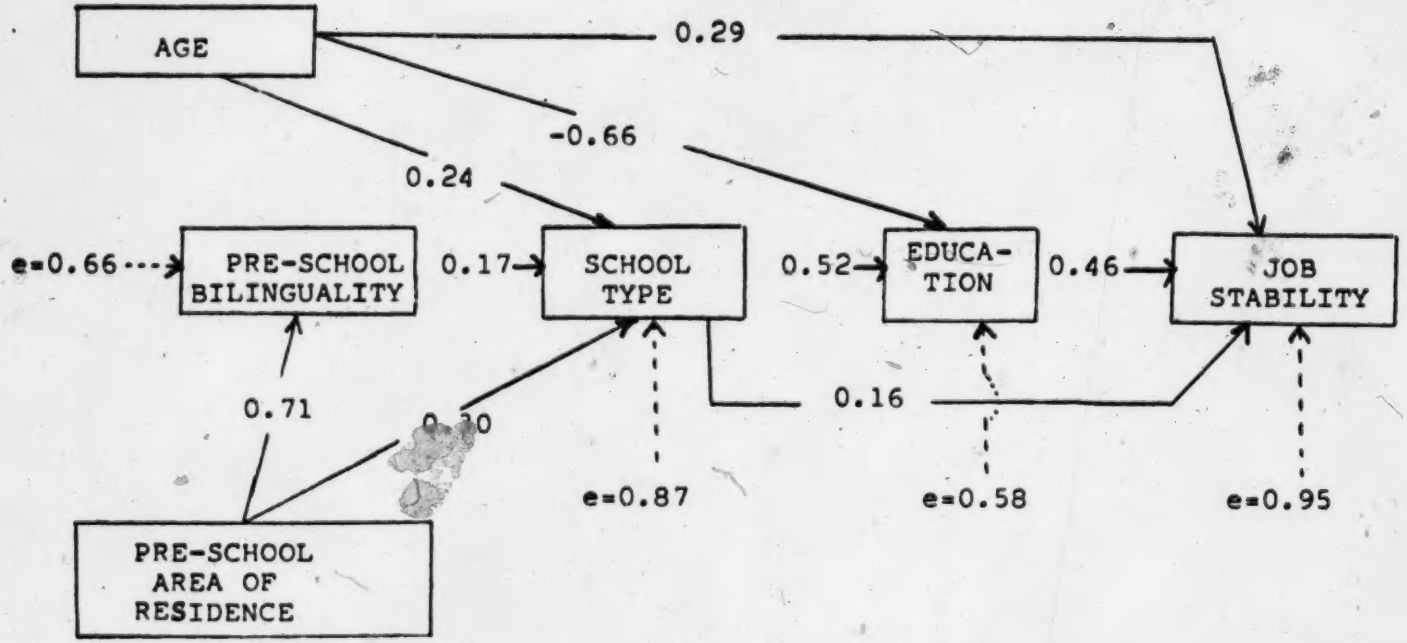

FIGURE 20. PATH MODEL EMPLOYING JOB STABILITY AS DEPENDENT VARIABLE INDICATOR